







# ANGLE EXACT

## Cordless nutrunners

- ▶ Precision Shut-off clutch exceeds ISO tolerance of  $\pm 10\%$
- ▶ Lightweight
- ▶ Broad torque range
- ▶ Trigger repeat protection
- ▶ LED/audible battery charge indicator; same as T-grip
- ▶ LED/audible shut-off indicator; same as T-grip
- ▶ Bright LED light for work area illumination
- ▶ All models feature trigger hand forward/reverse control
- ▶ Tools share many common parts
- ▶ Color rings are used to identify joint types on the assembly line
- ▶ Protective rubber cover available for angle heads
- ▶ Uses same batteries/chargers as T-Grip models
- ▶ All models can be hung from balancer using suspension hook
- ▶ Tool weight with angle head and battery is 1.6kg/3.5 lbs

| ANGLE EXACT!   | Order number  | Torque on hard joint per ISO 5393 (Nm) | Torque on soft joint per ISO 5393 (Nm) |
|--|---------------|--|--|
| <b>ANGLE EXACT 2</b><br>low torques and low speed: suitable for titanium screws<br> | 0 602 490 647 | 0.7 – 2<br>(0.5 – 1.5 ft.-lbs.)        | 0.7 – 2<br>(0.5 – 1.5 ft.-lbs.)        |
| <b>ANGLE EXACT 3</b><br>very precise in the lower torque range<br>                  | 0 602 490 656 | 0.7 – 3<br>(0.5 – 2.2 ft.-lbs.)        | 0.7 – 3<br>(0.5 – 2.2 ft.-lbs.)        |
| <b>ANGLE EXACT 7</b><br>very low speed: suitable for titanium screws<br>           | 0 602 490 669 | 2 – 7<br>(1.5 – 5.1 ft.-lbs.)          | 2 – 7<br>(1.5 – 5.1 ft.-lbs.)          |
| <b>ANGLE EXACT 6</b><br>high speed<br>  | 0 602 490 639 | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        |
|  | 0 602 490 640 | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        |
|  | 0 602 490 641 | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        |
|  | 0 602 490 642 | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        |
|  | 0 602 490 652 | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        | 1.5 – 6<br>(1.1 – 4.4 ft.-lbs.)        |
| <b>ANGLE EXACT 8</b><br>combination of speed and torque<br>                       | 0 602 490 637 | 2 – 9<br>(1.5 – 6.7 ft.-lbs.)          | 2 – 8<br>(1.5 – 5.9 ft.-lbs.)          |
|  | 0 602 490 638 | 2 – 9<br>(1.5 – 6.7 ft.-lbs.)          | 2 – 8<br>(1.5 – 5.9 ft.-lbs.)          |
|  | 0 602 490 643 | 2 – 9<br>(1.5 – 6.7 ft.-lbs.)          | 2 – 8<br>(1.5 – 5.9 ft.-lbs.)          |
|  | 0 602 490 644 | 2 – 9<br>(1.5 – 6.7 ft.-lbs.)          | 2 – 8<br>(1.5 – 5.9 ft.-lbs.)          |
|  | 0 602 490 651 | 2 – 9<br>(1.5 – 6.7 ft.-lbs.)          | 2 – 8<br>(1.5 – 5.9 ft.-lbs.)          |
| <b>ANGLE EXACT 15</b><br>high torque with very low weight<br>                     | 0 602 490 635 | 2 – 15<br>(1.5 – 11 ft.-lbs.)          | 2 – 15<br>(1.5 – 11 ft.-lbs.)          |
|  | 0 602 490 636 | 2 – 15<br>(1.5 – 11 ft.-lbs.)          | 2 – 15<br>(1.5 – 11 ft.-lbs.)          |
|  | 0 602 490 650 | 2 – 15<br>(1.5 – 11 ft.-lbs.)          | 2 – 15<br>(1.5 – 11 ft.-lbs.)          |





|         |              |          |           |             |
|---------|--------------|----------|-----------|-------------|
| C-EXACT | <b>EXACT</b> | BT-EXACT | SEC-EXACT | ACCESSORIES |
|---------|--------------|----------|-----------|-------------|

| No-load speed (min <sup>-1</sup> ) | Angle head            | Battery specifications | Direction of rotation | Weight (kg / lbs) | Features                 | Included accessories  |
|------------------------------------|-----------------------|------------------------|-----------------------|-------------------|--------------------------|---|
| 110                                | –                     | –                      | R/L                   | 1.0               | 0.7 repeat protection    | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>light-green color ring |
| 420                                | –                     | –                      | R/L                   | 1.0               | 0.7 repeat protection    | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>light-green color ring |
| 110                                | –                     | –                      | R/L                   | 1.0               | 0.7 repeat protection    | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>orange color ring      |
| 650                                | 1/4" internal hexagon | –                      | R/L                   | 1.2               | 0.7 s restart protection | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>black color ring       |
| 650                                | 1/4" internal hexagon | 9.6 V / 1.7 Ah         | R/L                   | 1.6               | 0.7 s restart protection |   |
| 650                                | 1/4" square           | –                      | R/L                   | 1.2               | 0.7 s restart protection |   |
| 650                                | 1/4" square           | 9.6 V / 1.7 Ah         | R/L                   | 1.6               | 0.7 s restart protection |   |
| 650                                | –                     | –                      | R/L                   | 1.0               | 0.7 s restart protection |   |
| 420                                | 3/8" square           | –                      | R/L                   | 1.2               | 0.7 s restart protection |   |
| 420                                | 3/8" square           | 9.6 V / 1.7 Ah         | R/L                   | 1.6               | 0.7 s restart protection |   |
| 420                                | 1/4" square           | –                      | R/L                   | 1.2               | 0.7 s restart protection |   |
| 420                                | 1/4" square           | 9.6 V / 1.7 Ah         | R/L                   | 1.6               | 0.7 s restart protection |   |
| 420                                | –                     | –                      | R/L                   | 1.0               | 0.7 s restart protection |   |
| 250                                | 3/8" square           | –                      | R/L                   | 1.2               | 0.7 s restart protection | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>red color ring         |
| 250                                | 3/8" square           | 9.6 V / 1.7 Ah         | R/L                   | 1.6               | 0.7 s restart protection |   |
| 250                                | –                     | –                      | R/L                   | 1.0               | 0.7 s restart protection |   |

# ANGLE EXACT

## Cordless nutrunners




- ▶ See page 18 for features
- ▶ Tool weight with angle head and battery is 2.6kg/5.7 lbs

|    | Order number  | Torque on hard joint per ISO 5393 (Nm) | Torque on soft joint per ISO 5393 (Nm) |
|---|---------------|--|--|
| <b>ANGLE EXACT 17</b><br>high speed<br>          | 0 602 490 675 | 6 – 17<br>(4.4 – 12.5 ft-lbs)          | 6 – 13<br>(4.4 – 9.6 ft-lbs)           |
|   | 0 602 490 676 | 6 – 17<br>(4.4 – 12.5 ft-lbs)          | 6 – 13<br>(4.4 – 9.6 ft-lbs)           |
| <b>ANGLE EXACT 23</b><br>good torque & speed<br> | 0 602 490 673 | 7 – 23<br>(5.1 – 17 ft-lbs)            | 0.7 – 3<br>(5.1 – 14.8 ft-lbs)         |
|   | 0 602 490 674 | 7 – 23<br>(5.1 – 17 ft-lbs)            | 0.7 – 3<br>(5.1 – 14.8 ft-lbs)         |
| <b>ANGLE EXACT 30</b><br>high torque<br>         | 0 602 490 671 | 8 – 30<br>(5.9 – 22.1 ft-lbs)          | 8 – 28<br>(5.9 – 20.7 ft-lbs)          |
|   | 0 602 490 672 | 8 – 30<br>(5.9 – 22.1 ft-lbs)          | 8 – 28<br>(5.9 – 20.7 ft-lbs)          |

# ANGLE EXACT CF

## Cordless nutrunners

The ANGLE EXACT CF models are designed for specialty crowfoot or tube nut heads not manufactured by Bosch. The CF models perform the same as standard models in forward, but limit power & run time in reverse to prevent head damage.

|   | Order number  | Torque on hard joint per ISO 5393 (Nm)        | Torque on soft joint per ISO 5393 (Nm)        |
|--|---------------|---|---|
| <b>ANGLE EXACT 14 CF</b><br>high speed<br>          | 0 602 490 690 | 1.4 – 10<br>(1 – 7.4 ft-lbs )<br>(w/o head)   | 1.4 – 10<br>(1 – 7.4 ft-lbs )<br>(w/o head)   |
|  | 0 602 490 693 | 5 – 16<br>(3.7 – 12 ft-lbs)<br>(w/o head)     | 5 – 14.3<br>(3.7 – 10.5 ft-lbs)<br>(w/o head) |
| <b>ANGLE EXACT 22 CF</b><br>good torque & speed<br> | 0 602 490 691 | 5.7 – 21<br>(4.2 – 15.4 ft-lbs)<br>(w/o head) | 5.7 – 20<br>(4.2 – 14.8 ft-lbs)<br>(w/o head) |
|  | 0 602 490 691 | 5.7 – 21<br>(4.2 – 15.4 ft-lbs)<br>(w/o head) | 5.7 – 20<br>(4.2 – 14.8 ft-lbs)<br>(w/o head) |

|         |              |          |           |             |
|---------|--------------|----------|-----------|-------------|
| C-EXACT | <b>EXACT</b> | BT-EXACT | SEC-EXACT | ACCESSORIES |
|---------|--------------|----------|-----------|-------------|

| No-load speed (min <sup>-1</sup> ) | Angle head                     | Battery specifications | Direction of rotation | Weight (kg / lbs) | Features              | Included accessories   |
|------------------------------------|--------------------------------|------------------------|-----------------------|-------------------|-----------------------|--|
| 560                                | –                              | –                      | R/L                   | 2.4 / 5.3         | 0.7 repeat protection | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>white color ring  |
| 560                                | –                              | 14.4 V / 2.4 Ah        | R/L                   | 1.5 / 3.3         | 0.7 repeat protection |  |
| 320                                | –                              | –                      | R/L                   | 2.4 / 5.3         | 0.7 repeat protection | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>orange color ring |
| 320                                | –                              | 14.4 V / 2.4 Ah        | R/L                   | 1.5 / 3.3         | 0.7 repeat protection |  |
| 220                                | –<br>requires<br>HD angle head | –                      | R/L                   | 2.4 / 5.3         | 0.7 repeat protection | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>red color ring    |
| 220                                | –<br>requires<br>HD angle head | 14.4 V / 2.4 Ah        | R/L                   | 1.5 / 3.3         | 0.7 repeat protection |  |

| No-load speed (min <sup>-1</sup> ) | Angle head                              | Battery specifications   | Direction of rotation | Weight (kg / lbs) | Features  | Included accessories   |
|------------------------------------|---|--------------------------|-----------------------|-------------------|---|--|
| 350<br>(w/o head)                  | Custom head<br>not supplied by<br>Bosch | 9.6 V<br>(Not included)  | R/L                   | 1.0 / 2.2         | 0.7 repeat protection<br><br>Same specifications as ANGLE EXACT 15 in forward; reduced power in reverse | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>red color ring    |
| 440<br>(w/o head)                  | Custom head<br>not supplied by<br>Bosch | 14.4 V<br>(Not included) | R/L                   | 1.5 / 3.3         | 0.7 repeat protection<br><br>Same specifications as ANGLE EXACT 23 in forward; reduced power in reverse | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>orange color ring |
| 300<br>(w/o head)                  | Custom head<br>not supplied by<br>Bosch | 14.4 V<br>(Not included) | R/L                   | 1.5 / 3.3         | 0.7 repeat protection<br><br>Same specifications as ANGLE EXACT 30 in forward; reduced power in reverse | Torque adjustment tool<br>Housing wrench<br>Suspension hook<br>red color ring    |