



BOLTING GUIDE



CAUTION



About Radial Torque Tools

Radial Torque Tools B.V., located in Soest, The Netherlands, is the exclusive master distributor for RAD Torque Systems for the European, Central Asian, and North African market. Besides deliveries of RAD torque wrenches and parts, Radial also provides quick repair, calibration, and tool engineering services. For this, Radial's fully trained staff has the latest technology at their disposal in their brand new and world class facility in Soest.

Our mission

"To be the recognized leader in controlled bolting solutions that outperforms customers' expectations whilst caring for our employees, stakeholders, and environment."

RAD Torque Systems

All RAD torque wrenches are manufactured by the Canadian company RAD Torque Systems and have proven to be successful globally in industries such as oil & gas, petrochemical, mining, aerospace, power generation and manufacturing. RAD continues to invest in the latest design and production technology to achieve the highest level of innovation, quality and performance. RAD's focus on producing the lightest and most compact planetary gear driven torque wrenches has resulted in multiple patents and a market leading position.

RAD has a certified ISO/IEC 17025 calibration Laboratory which ensures maximum quality control and full calibration traceability. All tools are designed according to CE-standards and are produced in Abbotsford BC, Canada.

Complementary solutions

In addition to the RAD products, Radial also provides complementary torque products in order to provide a comprehensive torque product solution. These products are manual torque wrenches by TrackWrench® and custom solutions under the RTT brand.



Together with our team in Soest and our suppliers we stand for providing quality products and services. Should you have any remarks or recommendations, feel free to contact me or our team.

Marcel Birkhoff



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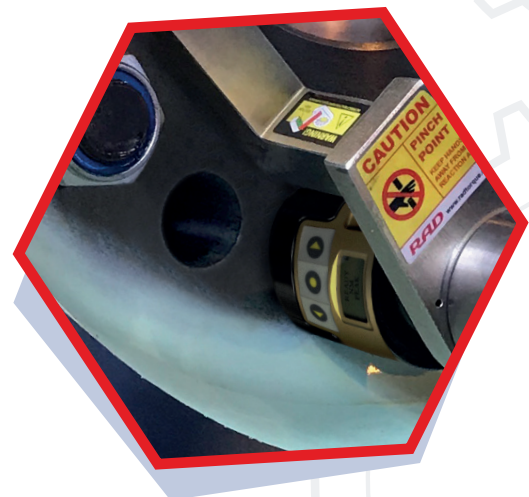
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Made in Canada

RAD Torque Systems is a leading Canadian manufacturer of pneumatic, battery powered, and electronic pistol grip torque wrenches which are marketed under the RAD trademark. For over 25 years, RAD Torque Systems designs and produces as much as possible in house to ensure production flexibility and the best product quality.

RAD products have proven to be successful all over the world in industries such as oil & gas, petrochemical, mining, aerospace, power generation, and manufacturing. With RAD Torque Systems massive brand new (2022) production facility in Abbotsford BC, RAD will be able to further expand its lead in reduction gear torque wrenches.

RAD Torque Systems features an ISO/IEC 17025 certified calibration Laboratory ensuring maximum quality control and full calibration traceability.



How it's made



About RAD Torque Systems

For over three decades, RAD Torque Systems has manufactured pneumatic, battery-powered, and electronic pistol-grip torque wrenches. As a fully Canadian-owned and operated business, we take pride in our commitment to quality, a principle that resonates throughout our operations. Our dedication extends beyond manufacturing outstanding tools; we stand by the quality of our products from conception through production and well into the years following their initial use.

Today, RAD Torque Systems is the trusted name globally for advanced industrial bolting solutions. Our comprehensive range of torque tools serve a diverse range of industries including oil & gas, petrochemical, mining, aerospace, power generation, and manufacturing.

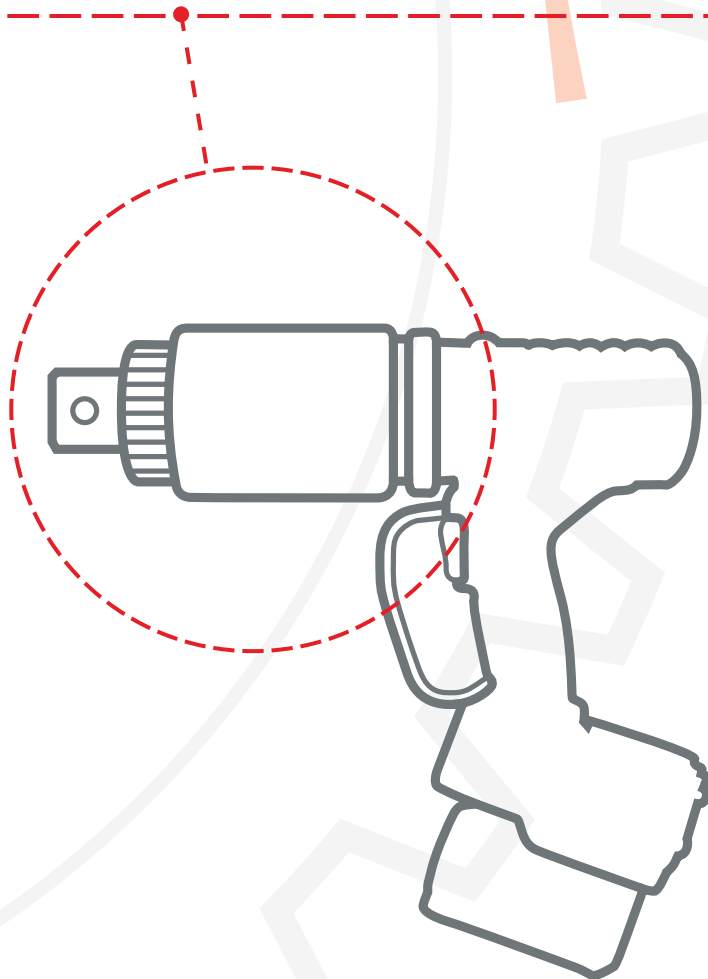
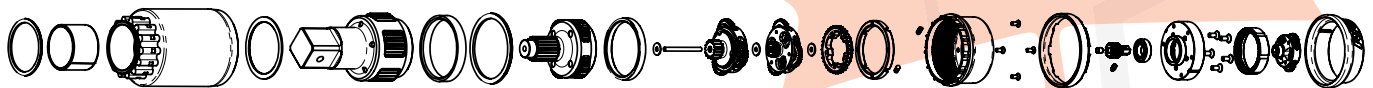
As a company we are dedicated to innovating new technologies for our customers. This dedication has resulted in groundbreaking products such as the world's first patented battery torque wrench, the E-RAD and our Smart Sockets.

We are proud of our partnership with Radial Torque Tools, serving as our master distributor for the European, Central Asian, and North African markets. Their dedicated team and state-of-the-art facility ensure our customers get the best service and maintenance of our products, reflecting our shared commitment to excellence.

Together with Radial, we are not just providing tools; we are delivering a promise of quality, reliability, and innovation. We invite you to join us on this journey, where precision meets excellence.

Sincerely,

Dan Provost
Founder & President, RAD Torque Systems

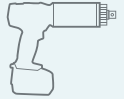




B-RAD X 7000 on a tower crane

BATTERY SERIES

10 B-RAD SELECT
Torque range: 50 - 7.000 Nm



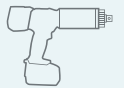
12 B-RAD OFFSET
Torque range: 50 - 7.000 Nm



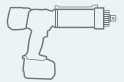
14 B-RAD EXT-R
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RTT EXCLUSIVE



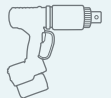
16 MB-RAD
Torque range: 30 - 7.000 Nm
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18 B-RAD-S
Torque range: 70 - 7.000 Nm



20 B-RAD X
Torque range: 700 - 15.000 Nm



22 SDM BATTERY
Torque range: 70 - 2.000 Nm
RTT EXCLUSIVE



About the Battery series

RAD battery-operated torque wrenches in the B-RAD series are unsurpassed thanks to their high torque capacity, low weight and compactness. RAD has a wide model range in high torque battery multipliers, available in the B-RAD SELECT or the advanced MB-RAD version.

Over the years, RAD and Radial have invested a lot in the development of battery torque wrenches, which has resulted in many innovations. Radial offers the widest model range in the industry, from basic torque control to transducer control, with multiple gearbox iterations. The power that RAD's current battery torque wrenches can deliver (up to 15.000 Nm!) was unimaginable a few years ago, as was the enormous capacity of the lithium-ion batteries.

RAD: Inventor of the battery torque wrench in 2008.

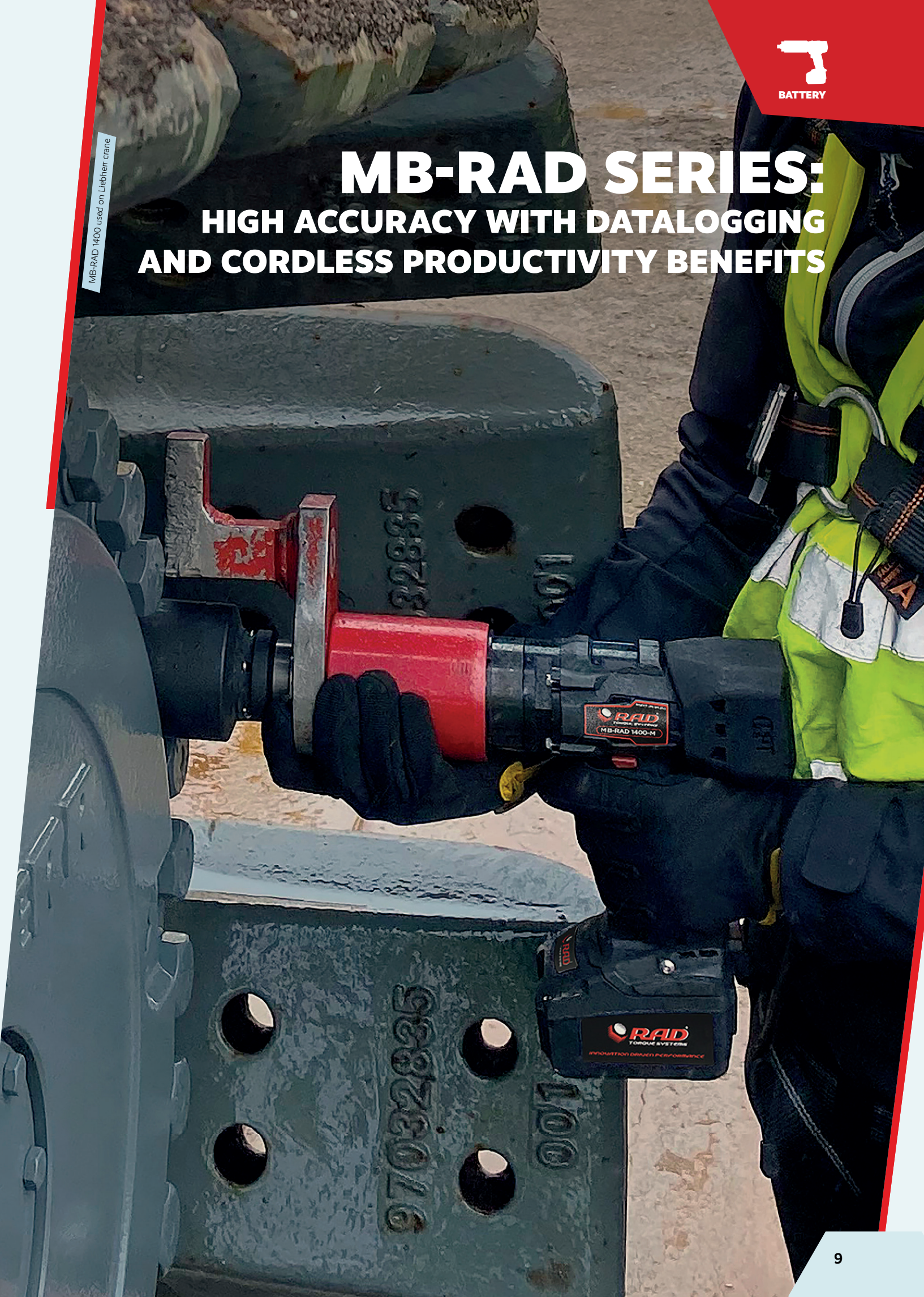


RAD inventor of world's first battery torque wrench in 2008



MB-RAD 1400 used on Liebherr crane

MB-RAD SERIES: HIGH ACCURACY WITH DATALOGGING AND CORDLESS PRODUCTIVITY BENEFITS



B-RAD 1400-2 used on asphalt milling machine



TOOL KITS INCLUDE:

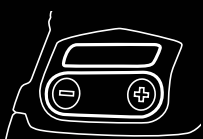
- Reaction arm and retaining rings
- Two 18V/5.2 Ah batteries with fast charger (For the B-RAD 4000 & 7000: 1x 5.2 Ah and 1x 8.0 Ah)
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: SIMPLE & PRECISE TORQUE SELECTION

Simple + precise torque selection with two simple buttons to increase or decrease the torque value by 10, 100 or 1.000 Nm. The set torque value is clearly visible on the four-digit display.



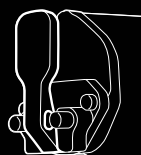
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B-RAD SELECT



FEATURES:

- Brushless motor
- Digital torque settings
- Available in single and automatic 2-speed gearbox
- Controlled bolting – repeatability of +/- 3%
- Extremely low noise level – only 65 dB
- Automatic reaction arm release
- Possibility to set torque in 1-50 levels instead of torque settings
- Equal torque in tightening and loosening
- Lithium-ion 18V / 5.2 Ah and 8.0 Ah battery technology

WHERE USED:

- Tower cranes
- Steel construction
- Civil engineering



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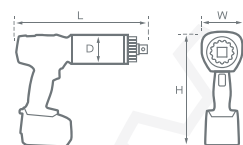


Torque range: 50 – 7.000 Nm

B-RAD SELECT series torque wrenches offer high torque output and reliability combined with uncompromised cordless freedom.

Cordless torque!

The **B-RAD SELECT** is especially suitable for installation and service jobs where electricity or compressed air are not available. Besides this, the **B-RAD SELECT** is also an ideal tool for valve actuation, load strapping and for driving spindles. The number of cycles per battery depends on stud length, lubrication and temperature.



| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|---------------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 30213 | B-RAD SELECT 275 | ½" | 50 | 270 | 47 | 3,2 | 228 | 63 | 68 | 262 |
| 29594 | B-RAD SELECT 275 | ¾" | 50 | 270 | 47 | 3,2 | 228 | 63 | 68 | 262 |
| 28264 | B-RAD SELECT 700 | ¾" | 170 | 700 | 21 | 3,5 | 231 | 63 | 67 | 262 |
| 28266 | B-RAD SELECT 1400 | ¾" | 270 | 1.400 | 10 | 3,5 | 231 | 63 | 67 | 262 |
| 28267 | B-RAD SELECT 1400-2 | ¾" | 540 | 1.400 | 71 | 4,3 | 279 | 63 | 67 | 262 |
| 28268 | B-RAD SELECT 2000 | 1" | 400 | 2.000 | 6 | 4,0 | 244 | 69 | 69 | 262 |
| 28269 | B-RAD SELECT 2000-2 | 1" | 400 | 2.000 | 19 | 4,9 | 298 | 69 | 69 | 262 |
| 28270 | B-RAD SELECT 4000 | 1" | 800 | 4.000 | 3 | 6,0 | 285 | 81 | 81 | 266 |
| 28271 | B-RAD SELECT 4000-2 | 1" | 800 | 4.000 | 19 | 6,7 | 337 | 81 | 81 | 266 |
| 28272 | B-RAD SELECT 7000 | 1½" | 1.400 | 7.000 | 2 | 8,8 | 295 | 95 | 95 | 272 |

Repeatability of 3%

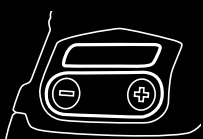


TOOL KITS INCLUDE:

- Reaction arm and retaining rings
- Two 18V / 5.2 Ah batteries with fast charger (For the B-RAD OFFSET 4000 & 7000: 1x 5.2 Ah and 1x 8.0 Ah)
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: Accessibility

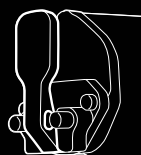
The B-RAD OFFSET offers all the features that make RAD battery tools so popular. With one major difference: the torque multiplier is placed in an offset position, so that the wrench can be used to tighten bolts in tight and difficult to reach spaces.



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B-RAD OFFSET



FEATURES:

- Brushless motor
- Digital torque settings
- Controlled bolting – repeatability of +/- 3%
- Extremely low noise level –only 65 dB
- Automatic reaction arm release
- Possibility to set torque in 1-50 levels instead of torque settings
- Equal torque in tightening and loosening
- Lithium-ion 18V / 5.2 Ah and 8.0 Ah battery technology



WHERE USED:

- Tower cranes
- Steel construction
- Civil engineering

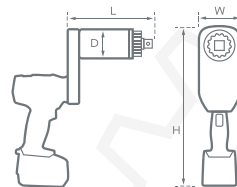
Torque range: 50 – 7.000 Nm

The **B-RAD OFFSET** is based on the standard **B-RAD SELECT** series and has all the same features that have made these torque wrenches so popular. There is one main difference: the torque multiplier is placed out of line with the motor with an offset link, and as a result, it reduces the total tool length above the bolt with 105mm.

This provides operators with a more versatile tool as it enables them to use the wrench in places where bolts cannot be tightened with standard wrenches. The **B-RAD OFFSET** is calibrated including the offset link, so no conversion tables are needed, unlike conventional “add-on” offset links.

In addition, it is worth knowing that the offset link can be retrofitted on any standard **B-RAD SELECT** model.

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| Toolkit | | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|-------------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | | | | | | L | D | W | H |
| 201024 | B-RAD OFFSET 275 | ½" | 50 | 270 | 47 | 3,2 | 110 | 63 | 50 | 352 |
| 201026 | B-RAD OFFSET 700 | ¾" | 170 | 700 | 21 | 3,5 | 126 | 63 | 50 | 352 |
| 201027 | B-RAD OFFSET 1400 | ¾" | 270 | 1.400 | 10 | 3,5 | 126 | 63 | 50 | 352 |
| 201029 | B-RAD OFFSET 2000 | 1" | 400 | 2.000 | 6 | 4,0 | 139 | 69 | 50 | 352 |
| 201031 | B-RAD OFFSET 4000 | 1" | 800 | 4.000 | 3 | 6,0 | 180 | 81 | 50 | 256 |
| 201033 | B-RAD OFFSET 7000 | 1½" | 1.400 | 7.000 | 2 | 9,3 | 190 | 95 | 50 | 362 |

B-RAD EXT-R used on rail



TOOL KITS INCLUDE:

- Reaction arm and retaining rings
- Two 18V / 5.2 Ah batteries with fast charger
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: **ERGONOMICS**

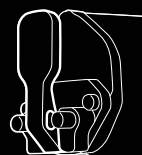
Simple + precise torque selection with two simple buttons to increase or decrease the torque value by 10, 100 or 1.000 Nm. The set torque value is clearly visible on the four-digit display. The extended positioning of the torque multiplier and the tool handle enable using these tools at floor height while standing



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B-RAD EXT-R

RTT EXCLUSIVE



FEATURES:

- Brushless motor
- Digital torque settings
- Available in single and automatic 2-speed gearbox
- Controlled bolting – repeatability of +/- 3%
- Extremely low noise level –only 65 dB
- Automatic reaction arm release
- Possibility to set torque in 1-50 levels instead of torque settings
- Equal torque in tightening and loosening
- Lithium-ion 18V / 5.2 Ah and 8.0 Ah battery technology

WHERE USED:

- Rail construction
- Steel construction
- Civil engineering



Torque range: 170 – 1.400 Nm

Another addition to the standard **B-RAD SELECT** range is the extended reach version: **EXT-R**. The **EXT-R** is the ideal wrench for working effortlessly in a standing position or for jobs above your head.

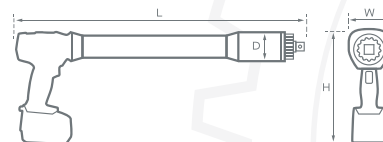
Having difficulties tightening a deeply recessed bolt? With the **B-RAD EXT-R** you can likely reach it!

The **EXT-R** has especially been designed to increase ergonomics. With its very low weight and with an extra adjustable handle, you can assume the perfect work position. No more back aches, tired arms or working on your knees. Due to the large distance to the reaction arm, pinching risks are practically eliminated and therefore the **EXT-R** is extremely safe.

The **B-RAD EXT-R** series has the same features as the standard **B-RAD SELECT** and the robust extension can be ordered separately as well, making it possible to retrofit it on a standard **B-RAD Select**.

Given the applications, the **EXT-R** is only available for the 700 Nm and 1400 (-2) Nm multipliers.

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| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|--------------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 201000 | B-RAD EXT-R 700 | 3/4" | 170 | 700 | 21 | 5,9 | 315 | 69 | 69 | 262 |
| 201003 | B-RAD EXT-R 1400 | 3/4" | 270 | 1.400 | 10 | 5,9 | 321 | 74 | 74 | 262 |
| 201004 | B-RAD EXT-R 1400-2 | 3/4" | 540 | 1.400 | 71 | 6,5 | 337 | 86 | 86 | 266 |

Repeatability of 3%



TOOL KITS INCLUDE:

- Reaction arm and retaining rings
- Two 18V / 5.2 Ah batteries with fast charger (For the MB-RAD 4000 & 7000: 1x 5.2 Ah and 1x 8.0 Ah)
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: ProTight™

The MB-RAD and B-RAD-S in combination with ProTight™ instruct the user what the prescribed procedure is for each bolt and what torque and/or angular rotation is required. ProTight™ ensures that bolts are torqued in the correct sequence, and that no bolts can be 'missed'.



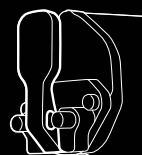
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FEATURES:

- Brushless motor
- Torque + angle limits
- Data logging with GPS location
- Bluetooth connectivity
- Torque check function
- Bolt counter
- Torque control in anticlockwise rotation
- Extremely low noise level – only 65 dB
- Selectable menu languages
- Intelligent counter for life cycle and maintenance
- Repeatability +/- 3%
- Lithium-ion 18V / 5.2 Ah and 8.0 Ah battery technology

WHERE USED:

- Tower cranes
- Steel construction
- Construction equipment



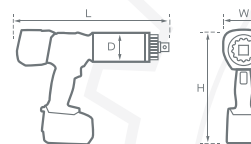
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Torque range: 30 – 7.000 Nm

The **MB-RAD Series** torque wrenches are the professional range of torque wrenches for the more demanding user. Now with data logging via bluetooth and advanced bolting options such as a smart bolt counter and torque + angle limits.

The included torque check function is very handy and popular for auditing critical bolt connections.



| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|-------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 200919 | MB-RAD 300 | ½" | 30 | 300 | 48 | 3,2 | 228 | 63 | 68 | 262 |
| 200921 | MB-RAD 700 | ¾" | 70 | 700 | 21 | 3,5 | 231 | 63 | 67 | 262 |
| 200922 | MB-RAD 1400 | ¾" | 140 | 1.400 | 10 | 3,5 | 231 | 63 | 67 | 262 |
| 200924 | MB-RAD 2000 | 1" | 200 | 2.000 | 6 | 4,0 | 244 | 69 | 69 | 262 |
| 200926 | MB-RAD 4000 | 1" | 400 | 4.000 | 3 | 6,0 | 301 | 81 | 81 | 268 |
| 200928 | MB-RAD 7000 | 1½" | 700 | 7.000 | 2 | 8,7 | 322 | 95 | 95 | 277 |

Repeatability of 3%



TOOL KITS INCLUDE:

- Reaction arm and retaining rings
- Two 18V / 5.2 Ah batteries with fast charger (For the B-RAD 4000-S & 7000-S: 1x 5.2 Ah and 1x 8.0 Ah)
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: **TRANSDUCER CONTROLLED**

B-RAD-S battery torque wrenches are equipped with torque transducer technology which constantly measures and adjusts the torque output (closed loop). This makes these tools insensitive to changing bolt conditions such as temperature, gearbox wear and joint hardness.



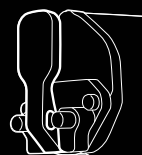
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B-RAD-S



FEATURES:

- Brushless motor
- Torque transducer
- Torque + angle limits
- Data logging
- Bluetooth connectivity
- Torque check function
- Bolt counter
- Torque control in anticlockwise rotation
- Selectable menu languages
- Intelligent counter for life cycle and maintenance
- Extremely low noise level – only 80 dB
- Lithium-ion 18V / 5.2 Ah battery technology

WHERE USED:

- Manufacturing
- Steel construction
- Construction equipment



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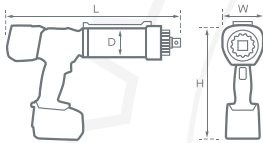


Torque range: 70 – 7.000 Nm

The new **B-RAD-S battery** torque wrench is equipped with a built-in torque transducer that adjusts its power and precisely shuts-off based on its measurements on the bolt during tightening. The proven strain gauge technology makes the torque wrench insensitive to changing conditions, such as gearbox wear, temperature and joint hardness. Due to the built-in transducer, this torque wrench tightens bolts according to the VDI/VDE 2862-2 standards.

Cordless torque!

Unlike competitors' wrenches that measure the gearbox input torque, the **B-RAD-S** measures the torque applied on the bolt. Any misreading through gearbox wear or damage will have no effect on the applied torque.



| Toolkit | | Tool | | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|--------------|--------|-----|------------|-------------|-----|-------|--------|-----------------|-----|--|--|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H | | |
| 31801 | B-RAD 700-S | 3/4" | 70 | 700 | 21 | 3,2 | 315 | 69 | 69 | 262 | | |
| 31803 | B-RAD 1400-S | 3/4" | 140 | 1.400 | 10 | 3,5 | 315 | 69 | 69 | 262 | | |
| 31805 | B-RAD 2000-S | 1" | 200 | 2.000 | 6 | 3,5 | 321 | 74 | 74 | 262 | | |
| 31807 | B-RAD 4000-S | 1" | 400 | 4.000 | 3 | 4,0 | 337 | 86 | 86 | 266 | | |
| 31809 | B-RAD 7000-S | 1 1/2" | 700 | 7.000 | 2 | 6,0 | 362 | 100 | 100 | 272 | | |

Repeatability of 2%

B-RAD X 7000 used on a plate



TOOL KITS INCLUDE:

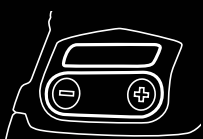
- Reaction arm and retaining rings
- Two 18V / 8.0 Ah batteries with fast charger
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: **BUILT-IN DOUBLE SAFETY BUTTON**

The all-new B-RAD X cordless torque wrenches offer an impressive maximum torque of 15.000 Nm. Several safety enhancing features are available such as a standard handguard for added operator protection, a two-hand start option and a latch lock to protect the battery from falling from heights.



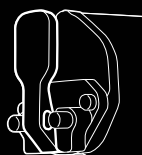
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B-RAD X



FEATURES:

- Brushless DC motor for added durability and accuracy
- Redesigned anti-fatigue trigger switch
- Standard handguard for added operator protection
- Two-hand start option
- Latch lock to protect battery from falling from high heights
- 4-button interface with highcontrast LED display
- Advanced cooling system

WHERE USED:

- Tower cranes
- Wind industry
- Civil engineering



Torque range: 700 – 15.000 Nm

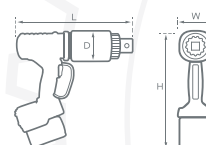
The most powerful cordless torque tool on the market!

RAD Torque Systems raises the bar once again with the new **B-RAD X** Series of cordless torque wrenches. The latest generation of RAD cordless torque wrenches has an impressive maximum torque of 15.000 Nm.

Building off RAD Torque's patented and world-renowned gearbox technology, the **B-RAD X** captures attention with its sleek new white design and rubber grip, a new high-performance motor, and its various features.

Fastening bolts in remote locations will now be easier for big industry as the cordless **B-RAD X** gives companies better mobility to torque and tension large bolts with less equipment to haul without compromising power or accuracy.

Accessories on page 42



| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|--------------|------------|-------------|--------|-------|--------|-----------------|-----|-----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 30657 | B-RAD X 7000 | 1,5" | 700 | 7.000 | 2 | 10,5 | 318 | 95 | 95 | 362 |
| 30659 | B-RAD X 10K | 1,5" | 1.000 | 10.000 | 2 | 13,8 | 349 | 108 | 108 | 369 |
| 30661 | B-RAD X 15K | 1,5" | 1.500 | 15.000 | 1 | 19,3 | 387 | 127 | 127 | 375 |

Repeatability of 3%

SDM used on a train



TOOL KITS INCLUDE:

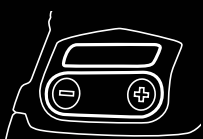
- Reaction arm and retaining rings
- Two 18V / 5.6 Ah batteries with fast charger
- User manual
- Calibration certificate
- Weatherproof storage case
- Safety instructions on USB drive

Highlighted feature: **ACCESSIBILITY**

For applications where tool access to the bolt is limited, RAD's SDM (Small Diameter Multiplier) Gearboxes provide you with a solution. The RAD SDM series was developed for the aerospace industry, specifically for use in small spaces.



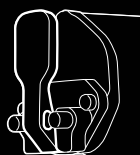
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SDM BATTERY

RTT
EXCLUSIVE



FEATURES:

- Brushless motor
- Latest lithium-ion 18V battery technology
- Torque control in anticlockwise rotation
- Multi-level password protection
- Includes Angle of turn function
- Automatic reaction arm release.



WHERE USED:

- Tower cranes
- Steel construction
- Civil engineering

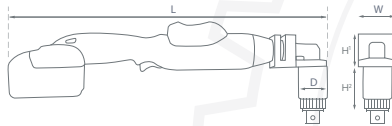
Torque range: 70 – 2.000 Nm

Miniature size, giant performance

RAD had originally designed the **SDM (Small Diameter Multiplier)** gearboxes for the aerospace industry where tool access is limited and quality and precision standards are high. Because of the compact design, the **SDM** gearboxes can be a real solution for applications where tool access to the bolt is very restricted and relatively high torque is needed.

The low weight and size reduce operator fatigue and eliminate the use of large and tiresome manual torque wrenches. Combined with a quality nutrunner, the **SDM** Series provide repetitive precision with excellent durability thanks to clever materials and smart bearing technology.

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| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | | |
|---------|--------------------------|------------|-------------|-------|-------|--------|-----------------|----|----|----------------|----------------|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H ¹ | H ² |
| 400201 | SDM BATTERY 340P | ½" | 70 | 340 | 12 | 2,1 | 535 | 48 | 48 | 52 | 66 |
| 400202 | SDM BATTERY 680P | ¾" | 130 | 680 | 12 | 2,2 | 540 | 48 | 48 | 52 | 66 |
| 400203 | SDM BATTERY 1400P | ¾" | 250 | 1.400 | 12 | 3,5 | 540 | 63 | 63 | 51 | 101 |
| 400204 | SDM BATTERY OFFSET 1400P | ¾" | 400 | 1.400 | 12 | 4,9 | 600 | 60 | 60 | 49 | 40 |
| 400205 | SDM BATTERY 2000P | 1" | 400 | 2.000 | 12 | 4,1 | 565 | 96 | 96 | 44 | 106 |

Repeatability of 3%

ELECTRIC SERIES

26 V-RAD SELECT
Torque range: 140 - 4.000 Nm



28 MV-RAD
Torque range: 65 - 11.000 Nm
ORTT EXCLUSIVE



30 E-RAD BLU
Torque range: 135 - 16.500 Nm



32 E-RAD BLU-S
Torque range: 135 - 16.500 Nm



E-RAD BLU 15K 90° used on wind turbine

About the Electric series

Radial offers various models electric wrenches based on usage, work environment and functionalities.

V-RAD SELECT

V-RAD SELECT torque wrenches are a lightweight and economical solution with basic digital torque settings. A perfect solution for intermittent use with three models up to 4.000 Nm. An excellent tool for industries such as machine building, steel construction, and general maintenance.

MV-RAD

The MV-RAD torque wrenches are the best solution for more demanding users that value functionalities like torque + angle tightening, datalogging and bolt check. Some models are also available in 90 degrees configuration. Compared to the V-RAD SELECT the MV-RAD is the best solution for intermittent use bolting up to 11.000 Nm. Frequently used in the wind and rail industry and for general maintenance.

E-RAD

Our most famous and professional corded solution is the E-RAD series. With a separate control box to reduce the tool weight for the operator it is our fastest and most durable electric torque wrench. It has advanced options for different tightening strategies, user modes and datalogging. The transducer equipped E-RAD-S is perfect for production applications, while the standard E-RAD is ideally suited for continuous heavy duty outdoor use. The E-RAD is the standard "go to" machine for the wind industry but also a perfect solution for other steel construction and production line applications.



ELECTRIC

E-RAD BLU 3400 used on wind turbine

E-RAD BLU SERIES: INDUSTRIAL QUALITY AND SPEED FOR MAXIMUM BOLTING COST REDUCTION



V-RAD 31 with sliding reaction arm used on ship engine

**TOOL KITS INCLUDE:**

- Reaction arm and retaining rings
- Weatherproof storage case
- Calibration certificate
- User manual
- Safety instruction on USB drive

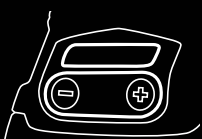
Highlighted feature:

CLEAR, PASS AND FAIL

The V-RAD SELECT shares the same two simple buttons with the B-RAD SELECT to increase or decrease the torque by 10, 100 or 1.000 Nm. The compact and lightweight tool torque is set via the clear numerical display.



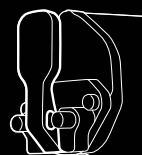
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V-RAD SELECT



FEATURES:

- The V-RAD SELECT shares the same two simple buttons with the B-RAD SELECT to increase or decrease the torque by 10 Nm
- Various functions can be set via the numerical display
- Equal power in forward and reverse
- Compact and lightweight
- Advanced ultra-durable electric motor design
- "Pass" / "Fail" indication

WHERE USED:

- Tower cranes
- Steel construction
- Civil engineering

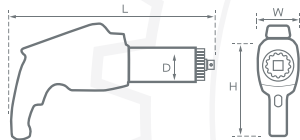


Torque range: 140 – 4.000 Nm

The **V-RAD SELECT** electric series is the economic **RAD electric** torque wrench used for the installation or removal of heavy duty fasteners, where speed, power, and high safety standards are required. The **V-RAD SELECT** shares the same two simple buttons with the **B-RAD SELECT** to increase or decrease the torque by 10 Nm.

V-RAD's are very light, compact and simple to use.

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| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|-------------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 25633 | V-RAD SELECT 1400 | ¾" | 140 | 1.400 | 10 | 3,9 | 304 | 63 | 64 | 205 |
| 25634 | V-RAD SELECT 2000 | ¾" | 200 | 2.000 | 6 | 4,2 | 304 | 69 | 69 | 205 |
| 25636 | V-RAD SELECT 4000 | ¾" | 400 | 4.000 | 3 | 6,2 | 338 | 81 | 81 | 205 |

Repeatability of 5%

MV-RAD 80 used on tower crane

**TOOL KITS INCLUDE:**

- Reaction arm and retaining rings
- Weatherproof storage case
- Calibration certificate
- User manual
- Safety instruction on USB drive

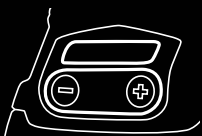
**Highlighted feature:
TORQUE CHECK**

The MV-RAD will quickly tighten or loosen bolts with high accuracy and reliability. Optionally, the MV-RAD also features a special Torque check function.

This feature allows the operator to check if an already tightened bolt is still within torque specification without adding any extra torque while doing this.



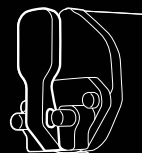
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FEATURES:

- Very light and handy
- Stops automatically when the set torque is reached and the reaction arm is released from the bolt connection
- Pistol grip with membrane key and OLED-display
- 360° rotatable handle
- Torque setting per Nm
- Angle of turn function
- Data logging
- Torque check function (optional)
- Available in 90° version

WHERE USED:

- Tower cranes
- Steel construction
- Civil engineering

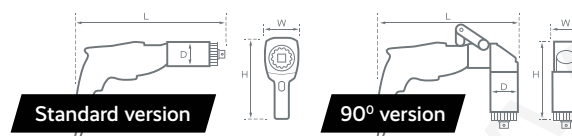


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Torque range: 65 – 11.000 Nm

The **MV-RAD** will quickly tighten or loosen bolts with high accuracy and reliability. The torque can be set, stageless, by a membrane keypad with increments of 1 Nm. Torque and more parameters can be programmed individually on custom demands. In addition, this torque wrench is equipped with an angle function.



| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|---------------|------------|-------------|--------|-------|--------|-----------------|-----|-----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 200278 | MV-RAD 6 | 3/4" | 65 | 650 | 42 | 4,1 | 375 | 62 | 78 | 205 |
| 200279 | MV-RAD 14 | 3/4" | 140 | 1.400 | 6 | 3,9 | 310 | 63 | 78 | 210 |
| 200289 | MV-RAD 14-90° | 3/4" | 140 | 1.400 | 13 | 7,5 | 176 | 63 | 73 | 390 |
| 200277 | MV-RAD 20 | 1" | 215 | 2.000 | 5 | 4,3 | 295 | 69 | 78 | 210 |
| 200282 | MV-RAD 34-90° | 1" | 340 | 3.400 | 6 | 7,5 | 220 | 80 | 73 | 395 |
| 200469 | MV-RAD 40 | 1" | 400 | 4.000 | 3 | 6,2 | 338 | 81 | 78 | 205 |
| 200284 | MV-RAD 45 | 1 1/2" | 450 | 4.500 | 3 | 8,8 | 485 | 86 | 86 | 205 |
| 200345 | MV-RAD 45-90° | 1 1/2" | 450 | 4.500 | 3 | 9,5 | 252 | 86 | 86 | 404 |
| 200287 | MV-RAD 70 | 1 1/2" | 700 | 7.000 | 2 | 9,5 | 435 | 96 | 96 | 210 |
| 200325 | MV-RAD 70-90° | 1 1/2" | 700 | 7.000 | 2 | 10,6 | 295 | 96 | 96 | 403 |
| 200286 | MV-RAD 80 | 1 1/2" | 800 | 8.000 | 1 | 11,4 | 484 | 102 | 102 | 220 |
| 200395 | MV-RAD 110 | 1 1/2" | 2.100 | 11.000 | 1 | 13,1 | 510 | 108 | 108 | 232 |

Repeatability of 3%

E-RAD BLU 3400-90° on fly wheel

**TOOL KITS INCLUDE:**

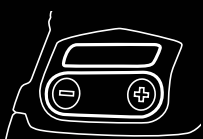
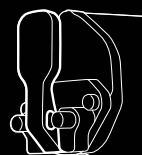
- Reaction arm and retaining rings
- Weatherproof storage case
- Controller cable 4,6 meter
- Digital torque controller case
- Data logging software
- User manual
- Calibration certificate
- Safety instruction on USB drive

**Highlighted feature:
DATA LOGGING**

With the standard data logging feature, you always know which bolts were worked on, when, at what setting, and by whom.



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E-RAD BLU



FEATURES:

- Multiple wrenches can be used in combination with one controller. Reducing cost when multiple wrench sizes are needed
- Bluetooth connectivity with RAD Smart Socket™ for transducer verified bolt connection calibration
- Highly advanced data logging capabilities and torque wrench management features
- High speed and productivity
- Military grade single cable connection system
- Available in 90° and offset version



WHERE USED:

- Wind tower installation
- Steel construction
- Civil engineering

ADDITIONAL FEATURES:

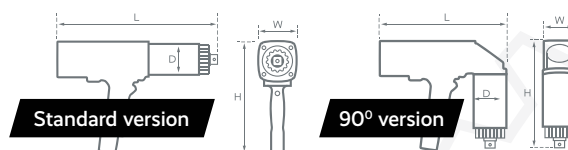
- Password protection on 3 user levels: basic, intermediate and advanced
- Operator identification – Ensures traceability of each torque sequence performed
- Capable of torque and angle bolting sequence
- LED indicator lights (Pass/Fail) – Located on both sides, these visual signals indicate the status of torque procedure for maximum accuracy
- Controlled bolting – repeatability of +/- 2%
- Extremely low noise level – only 75 dB

Torque range: 135 – 16.500 Nm

E-RAD BLU series precision torque wrench tools are designed to provide a high accuracy for high torque assembly applications.

These advanced electronic pistol grip torque wrenches combine the legendary RAD gearbox design and AC Servo motor technology to reduce bolting time up to 300% when compared to conventional hydraulic wrenches. Built and designed for heavy duty industrial usage.

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| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|--------------------|------------|-------------|--------|-------|--------|-----------------|-----|-----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 21985 | E-RAD BLU 950 | 3/4" | 135 | 950 | 30 | 5,4 | 340 | 78 | 245 | 65 |
| 21985 | E-RAD BLU 2000 | 1" | 270 | 2.000 | 9 | 5,9 | 337 | 76 | 288 | 69 |
| 21986 | E-RAD BLU 3400 | 1" | 340 | 3.400 | 10 | 8,1 | 380 | 78 | 245 | 70 |
| 22434 | E-RAD BLU 3400-90° | 1" | 340 | 3.400 | 11 | 8,3 | 210 | 78 | 245 | 76 |
| 21987 | E-RAD BLU 4000 | 1" | 675 | 4.050 | 8 | 10,6 | 430 | 88 | 260 | 83 |
| 200415 | E-RAD BLU 4000 | 1½" | 675 | 4.050 | 8 | 10,6 | 430 | 88 | 260 | 83 |
| 21988 | E-RAD BLU 8000 | 1½" | 1.385 | 8.100 | 4 | 13,0 | 430 | 100 | 260 | 100 |
| 21989 | E-RAD BLU 10K | 1½" | 2.034 | 10.000 | 2 | 15,0 | 430 | 105 | 265 | 105 |
| 24224 | E-RAD BLU 15K | 1½" | 4.050 | 15.000 | 2 | 20,1 | 466 | 127 | 273 | 127 |
| 25307 | E-RAD BLU 15K | 2½" | 4.050 | 16.500 | 2 | 20,3 | 466 | 127 | 273 | 127 |

Repeatability of 2%

E-RAD BLU 8000-S tightening hub bolts

**TOOL KITS INCLUDE:**

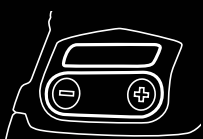
- Reaction arm and retaining rings
- Weatherproof storage case
- Controller cable 4,6 meter
- Digital torque controller case
- Data logging software
- User manual
- Calibration certificate
- Safety instruction on USB drive

Highlighted feature: TORQUE TRANSDUCER

The E-RAD-S is equipped with a torque transducer. This torque transducer is based on RAD's own strain gauge technology, which is mounted at the front of the gearbox, enabling very precise torque measurement on the bolt. This measurement is insensitive to deviations caused by gearbox wear and tear, lubrication and bolt condition. The E-RAD-S will therefore perform excellently in varying bolt conditions, the so called soft and hard joints.



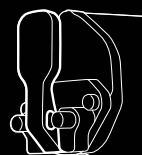
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E-RAD BLU-S



FEATURES:

- Highly advanced data logging and Tool Management features
- Built in transducer
- Password protection on 3 user levels: basic, intermediate and advanced
- Operator identification – Ensures traceability of each torque sequence performed
- Capable of torque and angle bolting sequence
- LED indicator lights (Pass/Fail) – Located on both sides, these visual signals indicate the status of torque procedure for maximum accuracy
- Controlled bolting – repeatability of +/- 2%, accuracy of transducer +/- 1%
- Extremely low noise level – only 75 dB



WHERE USED:

- Line production
- Steel construction
- Civil engineering

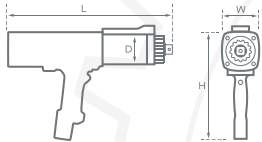
Torque range: 135 – 16.500 Nm

The most accurate high torque wrench on the market!

The **E-RAD BLU-S** is equipped with an integrated torque transducer that measures the tightening torque on the bolt connection during tightening. This system eliminates all joint sensitivity.

This ensures that the operator is always assured that the achieved tightening torque is correct, regardless of the bolt connection, lubrication, bolt type, etc. The tightening torque displayed on the control box display is therefore the actual measured tightening torque on the bolt.

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| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|------------------|------------|-------------|--------|-------|--------|-----------------|-----|-----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 26937 | E-RAD BLU 950-S | ¾" | 135 | 950 | 15 | 5,4 | 340 | 80 | 78 | 245 |
| 26938 | E-RAD BLU 3400-S | 1" | 340 | 3.400 | 10 | 8,1 | 380 | 85 | 78 | 245 |
| 22759 | E-RAD BLU 4000-S | 1" | 675 | 4.050 | 8 | 10,6 | 430 | 98 | 88 | 260 |
| 25282 | E-RAD BLU 8000-S | 1½" | 1.385 | 8.100 | 4 | 13,0 | 430 | 115 | 10 | 260 |
| 26939 | E-RAD BLU 10K-S | 1½" | 2.034 | 10.000 | 2 | 15,0 | 430 | 120 | 105 | 265 |
| 29315 | E-RAD BLU 15K-S | 1½" | 4.050 | 15.000 | 2 | 22,8 | 492 | 127 | 127 | 304 |

Repeatability of 2%



Mining truck wheel tightening

PNEUMATIC SERIES

36 SINGLE & 2-SPEED
Torque range: 35 - 15.000 Nm



38 WHEEL NUT BOLTING
Torque range: 400 - 2.450 Nm



About the Pneumatic series

Extreme duty torque wrenches for heavy duty applications! In addition to the high tightening and loosening speed, the pneumatic series offers the advantage of very quick and easy positioning of the reaction arm on the application.



PNEUMATIC

RAD DX SERIES: THE UNBREAKABLE AND LIGHTWEIGHT PRODUCTIVITY CHAMPION!

RAD 20 DX used on excavator



RAD 475 SL used on engine



TOOL KITS INCLUDE:

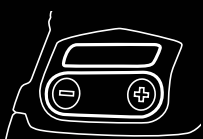
- Reaction arm and retaining rings
- Lubricating oil for the FRL unit
- User manual
- Lightweight FRL unit
- Calibration certificate
- Safety instruction on USB drive

Highlighted feature: **ATEX**

With the optional ATEX kit, RAD pneumatic torque wrenches can be used in explosion hazardous environments. The applicable ATEX certification is suitable for zones 1, 2, 21 and 22.



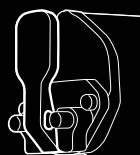
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SINGLE & 2-SPEED



FEATURES:

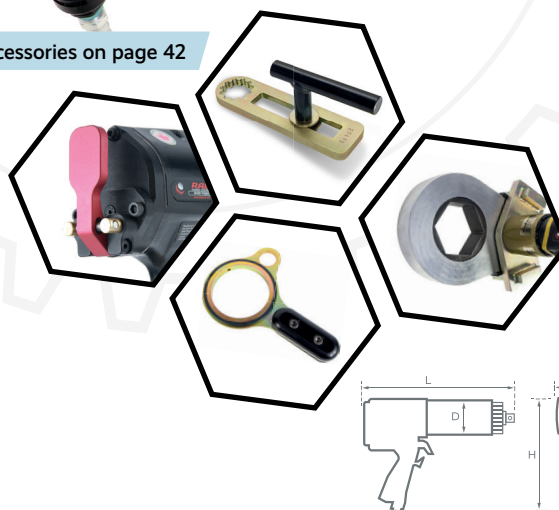
- The best power to weight ratio
- Cast aluminium housing
- Large torque range (min-max)
- High reliability
- Very compact design resulting in lower weight and better accessibility
- Unique fully automatic gearbox design, eliminating the time manual switch between high and low speed gear (2-speed only)
- Controlled bolting – repeatability of +/- 3%
- Extremely low noise level – only 80 dB

WHERE USED:

- Oil and gas industry
- Steel construction
- Civil engineering



Accessories on page 42



Torque range: 35 – 15.000 Nm

Extreme duty torque wrenches for heavy duty applications! RAD torque wrenches incorporate a precision engineered high speed gearbox designed for faster run down and quick reaction point positioning on time sensitive bolting applications. Nearly 30 years of experience in gearbox engineering and design has brought about RAD's latest generation in planetary gearboxes. Designed for extreme duty use in a variety of industries worldwide.

| Toolkit | Tool | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|---------|----------|------------|-------------|--------|-------|--------|-----------------|-----|-----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 15616 | 100 SL | ½" or ¾" | 35 | 100 | 275 | 2,1 | 161 | 60 | 69 | 222 |
| 15134 | 275 SL | ¾" | 50 | 275 | 90 | 2,2 | 167 | 60 | 69 | 222 |
| 13573 | 475 SL | ¾" | 70 | 475 | 65 | 2,4 | 167 | 60 | 69 | 222 |
| 13575 | 475 SL-2 | ¾" | 150 | 475 | 270 | 4 | 228 | 60 | 69 | 222 |
| 13539 | 10 GX | ¾" | 150 | 950 | 30 | 3,4 | 228 | 63 | 69 | 228 |
| 13549 | 14 GX | ¾" | 275 | 1.350 | 20 | 3,6 | 228 | 63 | 69 | 205 |
| 19774 | 14 GX-2 | ¾" | 450 | 1.350 | 85 | 4,5 | 262 | 60 | 69 | 222 |
| 19135 | 20 DX | 1" | 400 | 2.000 | 9 | 3,9 | 203 | 69 | 69 | 205 |
| 19775 | 20 DX-2 | 1" | 700 | 2.000 | 50 | 4,8 | 250 | 60 | 69 | 222 |
| 13565 | 34 GX | 1" | 700 | 3.400 | 9 | 6,1 | 246 | 77 | 83 | 241 |
| 19776 | 34 GX-2 | 1" | 700 | 3.400 | 44 | 7,6 | 305 | 63 | 69 | 228 |
| 24717 | 40 DX | 1" | 1.200 | 4.000 | 8 | 6,6 | 230 | 81 | 83 | 241 |
| 24952 | 40 DX-2 | 1" | 1.400 | 4.000 | 49 | 7,3 | 309 | 63 | 69 | 205 |
| 13571 | 46 GX | 1" | 1.400 | 4.600 | 12 | 9 | 325 | 86 | 93 | 264 |
| 26133 | 70 DX | 1" | 2.000 | 7.000 | 8 | 10,7 | 285 | 92 | 93 | 264 |
| 15805 | 80 DX | 1" | 2.700 | 8.000 | 7 | 12,5 | 348 | 101 | 101 | 277 |
| 23229 | 110 DX | 1" | 3.400 | 10.800 | 4 | 13,8 | 431 | 114 | 114 | 279 |
| 26153 | 150 DX | 1" | 5.400 | 15.000 | 3 | 19,1 | 353 | 127 | 127 | 281 |

Repeatability of 3%

RAD 46GX on mining truck

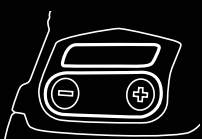
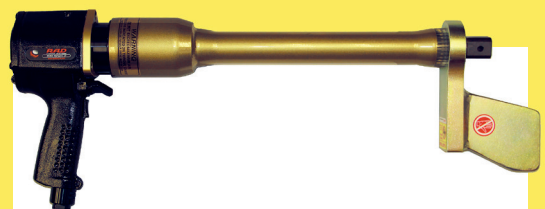


TOOL KITS INCLUDE:

- Reaction arm and retaining rings
- Lubricating oil for the FRL unit
- 3.6 meter hose
- User manual
- Lightweight FRL unit
- Tool storage case
- Calibration certificate
- Safety instruction on USB drive

Highlighted feature: **NOSE EXTENSION KIT**

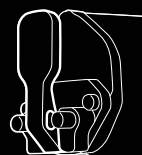
The fixed nose extension was developed exclusively for extreme duty maintenance of mining haul trucks from 50-400 ton capacities and front end loaders. The extended nose allows safe access of virtually all wheel configurations found on today's heavy equipment.



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Wheel Nut Bolting

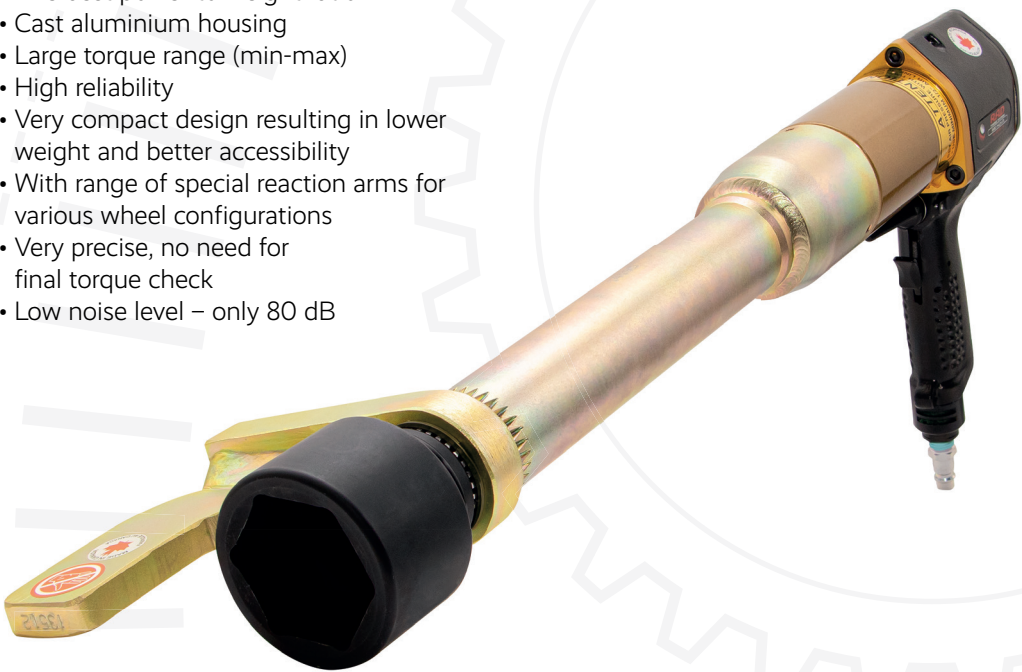


FEATURES:

- Extended gearbox design for accessing recessed bolts
- The best power to weight ratio
- Cast aluminium housing
- Large torque range (min-max)
- High reliability
- Very compact design resulting in lower weight and better accessibility
- With range of special reaction arms for various wheel configurations
- Very precise, no need for final torque check
- Low noise level – only 80 dB

WHERE USED:

- Truck and trailer wheels bolts
- Mining vehicles
- Construction equipment

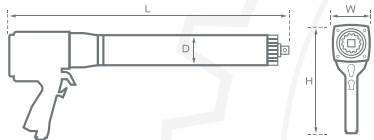


Torque range: 400 – 2.450 Nm

Accidents caused by incorrectly tightened wheel nuts are considered a serious problem in the industry. Especially impact wrenches are notorious for these problems, while at the same time they increase the risk of HAVS related injuries.

RAD planetary gear torque wrenches are vibration free and offer the accuracy to prevent accidentally under – and over tightening. Wheel bolts are always tightened to the correct torque. The extended drive shaft allows the user to reach deep-set bolts effortlessly. In addition, various types of reaction arms can be placed on the nose extension.

Accessories on page 42
















| Toolkit Tool | | Drive size | Torque (Nm) | | Speed | Weight | Dimensions (mm) | | | |
|--------------|------------|------------|-------------|-------|-------|--------|-----------------|----|----|-----|
| Number | Model | Inches | Min | Max | RPM | Kg | L | D | W | H |
| 13541 | 10 GX-R | 3/4" | 400 | 950 | 115 | 5,4 | 368 | 63 | 69 | 228 |
| 19340 | 14 GX-NX | 3/4" | 275 | 1.350 | 20 | 7,3 | 542 | 63 | 69 | 204 |
| 20809 | 20 NDX-R | 1" | 275 | 2.000 | 10 | 7,3 | 542 | 69 | 70 | 204 |
| 19340 | 20 DX-NX | 1" | 400 | 2.000 | 10 | 4,5 | 508 | 69 | 70 | 203 |
| 13563 | 2400 NGX-R | 1" | 700 | 2.450 | 10 | 12,4 | 546 | 76 | 83 | 241 |

Repeatability of 3%

FEATURE COMPARISON

Below an overview of the common features of RAD torque wrenches. All toolkits are CE certified, non impacting and feature 360° rotatable pistol grips for added safety.

| |  B-RAD SELECT 50 - 7.000 NM |  B-RAD OFFSET 50 - 7.000 NM |  B-RAD EXT-R 170 - 1.400 NM |  B-RAD X 700 - 15.000 NM |  MB-RAD 30 - 7.000 NM |
|---|---|---|--|--|---|
|  Digital torque setting | ✓ | ✓ | ✓ | ✓ | ✓ |
|  Automatic 2-speed | ✓ | ✗* | ✗* | ✗ | ✗* |
|  Lithium-ion battery | ✓ | ✓ | ✓ | ✓ | ✓ |
|  EX approved | ✗ | ✗ | ✗ | ✗ | ✗ |
|  Bluetooth connectivity | ✗ | ✗ | ✗ | ✗ | ✓ |
|  Torque + angle function | ✗ | ✗ | ✗ | ✗ | ✓ |
|  Software data exchange | ✗ | ✗ | ✗ | ✗ | ✓ |
|  Torque check | ✗ | ✗ | ✗ | ✗ | ✓ |
|  Torque transducer | ✗ | ✗ | ✗ | ✗ | ✗ |

* optional

|  B-RAD-S 70 - 7.000 NM |  V-RAD SELECT 140 - 4.000 NM |  MV-RAD 65 - 11.000 NM |  E-RAD BLU 135 - 16.500 NM |  E-RAD BLU-S 135 - 15.000 NM |  Single & 2-speed 35 - 15.000 NM |  Wheel Nut Bolting 400 - 2.450 NM |
|--|--|--|--|---|--|---|
| ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ |
| ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ |
| ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ |
| ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ |
| ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ |
| ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ |
| ✓ | ✗ | ✓* | ✓ | ✓ | ✗ | ✗ |
| ✓ | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ |



Accessories

- 44 **Offset Gearboxes**
Max torque: 5.000 Nm
- 46 **Nose Extensions**
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- 47 **SDM Gearboxes**
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For battery and electric torque wrenches

Accessories

In order to make full use of your RAD toolkit, we have developed a number of accessories. These range from (non) standard sockets and reaction arms, to offset gearboxes, and safety enhancing products.

In addition, Radial is able to design and make your special socket, reaction arm, or safety feature.

Reaction arms



OFFSET GEARBOXES

For applications where space for tool placement is limited, the CX Offset Gearbox can provide you with a solution. The CX Offset Gearbox simply extends the torque wrench's reach to the bolt, enabling the operator to precisely tighten the bolt.

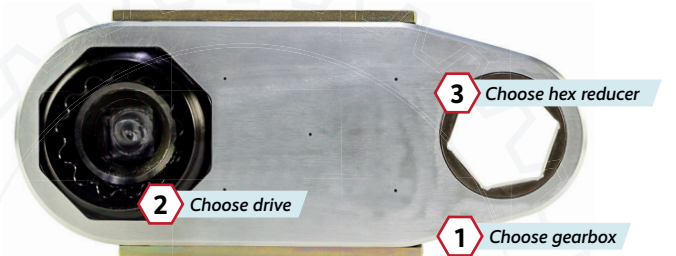
CX Offset Gearboxes

The CX Offset Gearbox series can be used with different tool sizes thanks to the interchangeable drive insert.

At the same time the output side can be adapted to different sizes by using hexagon insert reducers. The versatile CX Offset Gearbox series can be used to tighten bolts up to 5.000 Nm, with a maximum Hex size of 65 mm. The CX Offset Gearbox series is designed to work with several types of RAD torque wrenches. The CX Offset can be used up to the 40 DX gearbox and reacts off the side of the Offset Gearbox.

The order process for the CX Offset Gearbox consists of 3 steps:

- Step 1: Choose the type of CX Offset Gearbox.
 Step 2: Choose the connection of the torque wrench with which the CX Offset Gearbox will be used.
 Step 3: Choose a hex reducer to make the CX Offset Gearbox applicable for different bolt sizes.



1. Choose gearbox

| Gearbox | Tool | Square drive | | | Weight | Dimensions MM | | | |
|----------|----------------|--------------|------------|--------------|--------|---------------|-----|----|----|
| Prod.no. | Suitable for | Inches | Max output | Torque ratio | Kg | L | H | W | D |
| 27978 | 14 GX to 40 DX | 1" | 3.400 Nm | 1:1 | 6,7 | 324 | n/a | 44 | 41 |
| 28540 | 14 GX to 40 DX | 1" | 5.000 Nm | 1:1.42 | 11,6 | 400 | n/a | 44 | 54 |

2. Choose drive

| Gearbox | Tool | Square drive |
|----------|---|--------------|
| Prod.no. | Suitable for | Gearbox |
| 11537* | RAD 100 SL, RAD 275 SL, RAD 475 SL, B-RAD SELECT 275, B-RAD SELECT 475, (M)V-RAD 6 | 27978 |
| 16155* | RAD 10 GX, RAD 14 GX, E-RAD BLU 950, B-RAD SELECT 700(-2), B-RAD SELECT 1400(-2), (M)V-RAD 14 | 27978 |
| 26994 | RAD 20 GX, E-RAD BLU 2000, B-RAD SELECT 950-2, B-RAD SELECT 2000(-2), (M)V-RAD 20 | 27978 |
| 13034 | RAD 34 GX, E-RAD BLU 3400, V-RAD 31, MV-RAD 34 | 27978 |
| 27853 | RAD 40 DX, B-RAD SELECT 4000(-2) | 27978 |
| 28532 | RAD 34 GX, E-RAD BLU 3400, V-RAD 31, MV-RAD 34 | 28540 |
| 28531 | RAD 40 DX, B-RAD SELECT 4000(-2) | 28540 |

* Square drive insert 1" to 3/4" included (PN:11749)

3. Choose hex reducer (if required)

| Prod.no. | From | To |
|----------|-------|-------|
| 200444 | 50 mm | 30 mm |
| 200443 | 50 mm | 32 mm |
| 200442 | 50 mm | 36 mm |
| 200441 | 50 mm | 41 mm |
| 200440 | 50 mm | 46 mm |
| 200897 | 65 mm | 36 mm |
| 200901 | 65 mm | 41 mm |
| 200902 | 65 mm | 46 mm |
| 200903 | 65 mm | 50 mm |
| 200904 | 65 mm | 55 mm |
| 200905 | 65 mm | 60 mm |



HX Offset Gearboxes

For plate heat exchanger applications, RAD has engineered a special solution: the HX Offset Gearbox series.

The HX Offset Gearbox series is designed to work with several types of RAD torque wrenches.

The HX Offset Gearbox is designed with a 2:1 ratio for tightening plate heat exchangers. The 2:1 ratio works very well with RAD automatic 2-speed gearboxes as rundown will be very fast. Depending on the application, pneumatic or electric tools can be used. For extended use, RAD advises pneumatic torque wrenches.

The order process for the HX Offset Gearbox consists of 3 steps:

- Step 1: Choose the type of HX Offset Gearbox.
- Step 2: Choose the reaction arm of the torque wrench with which the HX Offset Gearbox will be used.
- Step 3: Choose a hex reducer to make the HX Offset Gearbox applicable for different bolt sizes.



1. Choose gearbox

| Gearbox | Tool | Square drive | | | | Weight | Dimensions MM | | | |
|----------|-------|--------------|-----------|------------|--------------|--------|---------------|-----|-----|----|
| Prod.no. | Model | Inches | Max input | Max output | Torque ratio | Kg | L | H | W | D |
| 24404 | 55 mm | ¾" | 1.900 Nm | 3.500 Nm | 1:1.86 | 6,8 | 410 | 175 | 266 | 42 |
| 22541 | 65 mm | 1" | 1.900 Nm | 3.500 Nm | 1:1.86 | 6,7 | 410 | 175 | 266 | 42 |
| 16550 | 80 mm | 1" | 1.900 Nm | 3.500 Nm | 1:1.86 | 6,6 | 410 | 175 | 266 | 42 |

2. Choose drive

| Gearbox | Tool | Square drive |
|----------|---|--------------|
| Prod.no. | Suitable for | Gearbox |
| 11537* | RAD 100 SL, RAD 275 SL, RAD 475 SL, B-RAD SELECT 275, B-RAD SELECT 475, (M)V-RAD 6 | 27978 |
| 16155* | RAD 10 GX, RAD 14 GX, E-RAD BLU 950, B-RAD SELECT 700(-2), B-RAD SELECT 1400(-2), (M)V-RAD 14 | 27978 |
| 26994 | RAD 20 GX, E-RAD BLU 2000, B-RAD SELECT 2000(-2), (M)V-RAD 20 | 27978 |
| 13034 | RAD 34 GX, E-RAD BLU 3400, V-RAD 31, MV-RAD 34 | 27978 |
| 27853 | RAD 40 DX, B-RAD SELECT 4000(-2) | 27978 |
| 28532 | RAD 34 GX, E-RAD BLU 3400, V-RAD 31, MV-RAD 34 | 28540 |
| 28531 | RAD 40 DX, B-RAD SELECT 4000(-2) | 28540 |

* Square drive insert 1" to ¾" included (PN:11749)

3. Choose hex reducer (if required)

| Prod.no. | From | To |
|----------|-------|-------|
| 200906 | 55 mm | 36 mm |
| 200837 | 55 mm | 46 mm |
| 200897 | 65 mm | 36 mm |
| 200901 | 65 mm | 41 mm |
| 200902 | 65 mm | 46 mm |
| 200903 | 65 mm | 50 mm |
| 200904 | 65 mm | 55 mm |
| 200905 | 65 mm | 60 mm |
| 200819 | 80 mm | 24 mm |
| 200862 | 80 mm | 30 mm |
| 200863 | 80 mm | 36 mm |
| 200835 | 80 mm | 46 mm |

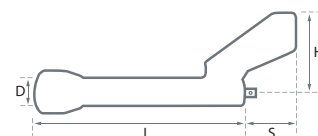
| Prod.no. | From | To |
|----------|-------|-------|
| 200858 | 80 mm | 50 mm |
| 200830 | 80 mm | 55 mm |
| 200831 | 80 mm | 60 mm |
| 200832 | 80 mm | 65 mm |
| 200857 | 80 mm | 70 mm |
| 200834 | 80 mm | 75 mm |

NOSE EXTENSIONS

Torque range: 300 – 4.600 Nm

RAD Nose Extension are designed with flexibility in mind for reaching deep recessed bolts. The Nose Extensions slide on to the end of the RAD gearbox and are easily locked in place. On the Nose Extension itself, various reaction arms can be fitted. For wheel bolts, a paddle style reaction arm is mostly used. For maximum versatility the NX kits are advised.

See also page 38



| Standard | Reaction arm | Dimensons MM | | | | Paddle reaction arm | Standard reaction arm |
|----------|--------------|--------------|-----|----|-----|---------------------|-----------------------|
| Prod.no. | Suitable for | H | L | D | S | Prod.no. | Prod.no. |
| 14195 | 14 GX | n/a | 324 | 44 | n/a | 13512 | 11842 |
| 14200 | 14 GX | n/a | 400 | 44 | n/a | 13512 | 11842 |
| 14205 | 14 GX | n/a | 476 | 44 | n/a | 13512 | 11842 |
| 18185 | 20 DX | n/a | 349 | 51 | n/a | 20153 | 19772 |
| 19058 | 20 DX | n/a | 400 | 51 | n/a | 20153 | 19772 |
| 19059 | 20 DX | n/a | 476 | 51 | n/a | 20153 | 19772 |
| 12096 | 34 GX | 127 | 330 | 51 | 83 | Fixed | Fixed |
| 12061 | 34 GX | 127 | 406 | 51 | 83 | Fixed | Fixed |
| 12097 | 34 GX | 127 | 470 | 51 | 83 | Fixed | Fixed |
| 27641 | 40 DX | n/a | 305 | 51 | n/a | 13484 | 13484 |
| 27643 | 40 DX | n/a | 381 | 51 | n/a | 13484 | 13484 |
| 27651 | 40 DX | n/a | 457 | 51 | n/a | 13484 | 13484 |
| 11750 | 46 GX | 142 | 318 | 51 | 86 | Fixed | n/a |
| 11751 | 46 GX | 142 | 394 | 51 | 86 | Fixed | n/a |
| 11752 | 46 GX | 142 | 470 | 51 | 86 | Fixed | n/a |

SDM GEARBOXES



Max torque: 2.000 Nm

SDM Gearboxes

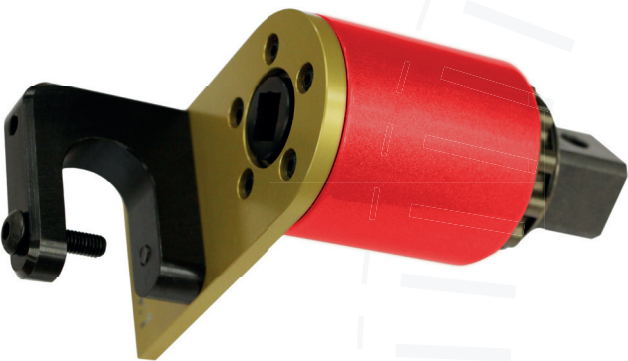
For applications where tool access to the bolt is limited, RAD's SDM (Small Diameter Multiplier) Gearboxes can provide you with a solution.

The low weight and size of the SDM reduce operator fatigue and eliminate the use of large and tiresome manual torque wrenches. Combined with a quality nutrunner, the SDM series provide repetitive precision with excellent durability thanks to clever materials and smart bearing technology.

SDM gearboxes can be combined with standard industry nutrunners (pneumatic, battery, electric) and have a maximum torque output of up to 2.000 Nm. Final torque and RPM depend on the chosen SDM gearbox model, its ratio and the capacity of the chosen nutrunner. Torque accuracy and repeatability will depend on the chosen nutrunner.

Radial also offers the SDM Gearboxes as a complete toolkit. This is a turnkey SDM combined with an angled battery nutrunner.

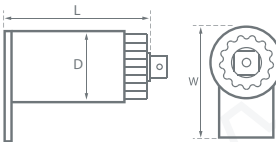
More info on page 23



All SDM Gearboxes are delivered with:

- Standard tombstone mounting plate

Note: Reaction arm not included.



| Prod.no. | Model | Ratio | Max output | Input drive | Output drive | Weight | L | D | W |
|----------|-------------------------|-------|------------|-------------|--------------|--------|--------|--------|-------|
| 28490 | SDM Gearbox 340 | 1:23 | 340 Nm | ¼" | ½" | 0,3 Kg | 55 mm | 48 mm | 48 mm |
| 28530 | SDM Gearbox 340 | 1:23 | 340 Nm | ⅝" | ½" | 0,3 Kg | 55 mm | 48 mm | 48 mm |
| 28520 | SDM Gearbox 340 | 1:23 | 340 Nm | ¼" | ¾" | 0,3 Kg | 55 mm | 48 mm | 48 mm |
| 28570 | SDM Gearbox 680 | 1:23 | 680 Nm | ⅝" | ¾" | 0,4 Kg | 55 mm | 48 mm | 48 mm |
| 28550 | SDM Gearbox 340 | 2:05 | 340 Nm | ¼" | ½" | 0,3 Kg | 69 mm | 48 mm | 48 mm |
| 28560 | SDM Gearbox 340 | 2:05 | 340 Nm | ⅝" | ½" | 0,3 Kg | 69 mm | 48 mm | 48 mm |
| 28480 | SDM Gearbox 680 | 2:05 | 680 Nm | ¼" | ¾" | 0,4 Kg | 69 mm | 48 mm | 48 mm |
| 28510 | SDM Gearbox 680 | 2:05 | 680 Nm | ⅝" | ¾" | 0,4 Kg | 69 mm | 48 mm | 48 mm |
| 28470 | SDM Gearbox 680 | 2:33 | 680 Nm | ¼" | ¾" | 0,4 Kg | 69 mm | 48 mm | 48 mm |
| 28500 | SDM Gearbox 680 | 2:33 | 680 Nm | ⅝" | ¾" | 0,4 Kg | 69 mm | 48 mm | 48 mm |
| 12914 | SDM Gearbox 1400 | 1:128 | 1.400 Nm | ⅝" | ½" | 2,1 Kg | 93 mm | 63 mm | 63 mm |
| 15506 | SDM Gearbox 1400 | 1:128 | 1.400 Nm | ⅝" | ¾" | 2,1 Kg | 93 mm | 63 mm | 63 mm |
| 29280 | SDM Gearbox 1400 OFFSET | 1:131 | 1.400 Nm | ⅝" | ¾" | 2,9 Kg | 89 mm | 125 mm | 76 mm |
| 31675 | SDM Gearbox 2000 | 1:147 | 2.000 Nm | ⅝" | 1" | 2,3 Kg | 123 mm | 69 mm | 69 mm |

SMART SOCKETS™

Torque range: 200 - 16.200 Nm

Smart Sockets™

The RAD Smart Socket™ Series are patented torque measurement sockets from 27 mm – 110 mm. These sockets are able to measure the actual torque applied to the bolted joint with a maximum deviation of less than 1%.

Uses RAD's transducer technology implemented in a custom socket in order to measure the actual torque applied to the bolt during a torque cycle. By innovative design, the Smart Socket™ is no larger than a standard socket. Its compact size and innovative technology make the Smart Socket™ a perfect audit tool for inspecting bolted joints and can function as a master calibration for various torque tools.

Besides precisely measuring the tightening torque, the Smart Socket™ is also capable of data logging all bolting activities.

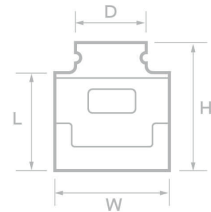
The RAD Smart Sockets™ are calibrated on RAD's weight and beam system in RAD's ISO 17025 certified calibration facility.



All RAD Smart Sockets™

include:

- Locking pin and o-ring
- USB charger
- Weatherproof storage case
- Pre-installed tablet
- User manual
- Calibration certificate



| Toolkit | Tool | Drive size | Torque (Nm) | | Weight | Dimension MM | | | |
|----------|----------------------|------------|-------------|----------|--------|--------------|-----|-----|-----|
| Prod.no. | Model | Inches | Min | Max | Kg | L | D | W | H |
| 26936 | Smart Socket™ 29 mm | ¾" | 200 | - 2.034 | n/a | n/a | n/a | n/a | n/a |
| 26931 | Smart Socket™ 30 mm | ¾" | 200 | - 2.034 | n/a | n/a | n/a | n/a | n/a |
| 20879 | Smart Socket™ 33 mm | ¾" | 200 | - 2.034 | 1,2 Kg | 70 | 42 | 72 | 100 |
| 26932 | Smart Socket™ 36 mm | ¾" | 200 | - 2.034 | 1,2 Kg | 65 | 54 | 72 | 87 |
| 22158 | Smart Socket™ 41 mm | 1" | 200 | - 2.034 | 1,2 Kg | 65 | 54 | 72 | 87 |
| 20880 | Smart Socket™ 46 mm | 1" | 200 | - 2.034 | 1,2 Kg | 65 | 54 | 72 | 87 |
| 20881 | Smart Socket™ 50 mm | 1" | 400 | - 4.050 | 1,4 Kg | 69 | 54 | 86 | 89 |
| 20882 | Smart Socket™ 55 mm | 1" | 400 | - 4.050 | 1,5 Kg | 69 | 54 | 86 | 89 |
| 20883 | Smart Socket™ 60 mm | 1" | 400 | - 4.050 | 1,5 Kg | 69 | 54 | 86 | 89 |
| 23690 | Smart Socket™ 65 mm | 1½" | 1.100 | - 10.800 | 4,0 Kg | 90 | 87 | 115 | 121 |
| 20884 | Smart Socket™ 70 mm | 1½" | 1.100 | - 10.800 | 4,0 Kg | 90 | 87 | 115 | 121 |
| 21911 | Smart Socket™ 75 mm | 1½" | 1.100 | - 10.800 | 4,0 Kg | 90 | 87 | 115 | 121 |
| 20885 | Smart Socket™ 80 mm | 1½" | 1.100 | - 10.800 | 4,0 Kg | 90 | 87 | 115 | 121 |
| 25657 | Smart Socket™ 90 mm | 1½" | 1.100 | - 16.200 | 5,8 Kg | 99 | 99 | 131 | 115 |
| 25658 | Smart Socket™ 100 mm | 1½" | 1.100 | - 16.200 | 7,2 Kg | 99 | 99 | 146 | 120 |
| 31339 | Smart Socket™ 110 mm | 1½" | 1.100 | - 16.200 | 8,1 Kg | 120 | 99 | 158 | 140 |

Magnetic insert reducers

As an accessory RAD can provide you with hex reducer inserts in order to use the Smart Socket™ for more sizes. These reducers can be used on all Smart Sockets™ and all impact sockets. The great thing is that they are magnetic so won't accidentally fall out.

| Prod.No. | Reducer insert | Hex |
|----------|----------------|-------|
| 200820 | Socket 46 mm | 24 mm |
| 200821 | Socket 46 mm | 27 mm |
| 200822 | Socket 46 mm | 30 mm |
| 200823 | Socket 46 mm | 32 mm |
| 200824 | Socket 46 mm | 36 mm |
| 200825 | Socket 46 mm | 41 mm |
| 200838 | Socket 50 mm | 46 mm |
| 200447 | Socket 50 mm | 41 mm |
| 200866 | Socket 50 mm | 36 mm |
| 200448 | Socket 50 mm | 32 mm |
| 200837 | Socket 55 mm | 46 mm |
| 200826 | Socket 60 mm | 41 mm |
| 200827 | Socket 60 mm | 46 mm |
| 200828 | Socket 60 mm | 50 mm |
| 200829 | Socket 60 mm | 55 mm |
| 200897 | Socket 65 mm | 36 mm |
| 200901 | Socket 65 mm | 41 mm |
| 200902 | Socket 65 mm | 46 mm |
| 200903 | Socket 65 mm | 50 mm |
| 200904 | Socket 65 mm | 55 mm |
| 200833 | Socket 75 mm | 65 mm |
| 200830 | Socket 80 mm | 55 mm |
| 200835 | Socket 80 mm | 46 mm |
| 200830 | Socket 80 mm | 55 mm |
| 200831 | Socket 80 mm | 60 mm |
| 200832 | Socket 80 mm | 65 mm |
| 200833 | Socket 80 mm | 70 mm |
| 200834 | Socket 80 mm | 75 mm |
| 200851 | Socket 95 mm | 75 mm |
| 200852 | Socket 95 mm | 85 mm |
| 300133 | Socket 100 mm | 60 mm |
| 300134 | Socket 100 mm | 80 mm |



Bolt Test Bench PN: 19342
Maximum capacity 6.500 Nm

REACTION ARMS

Standard reaction arms:

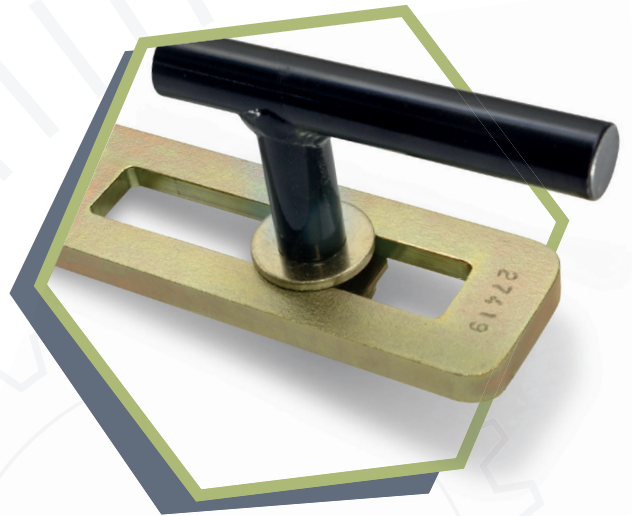
All RAD torque wrenches come with a standard reaction arm to absorb the counterforce while torquing a bolt. These arms are designed for the most common applications.

Custom reaction arms:

If a standard reaction arm is not suitable for the job, Radial is able to quickly provide you with custom engineered reaction arms, fully within safety standards.



Please double check before ordering if the standard arm is suitable for your job.



Pneumatic

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|----------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| RAD 275 SL | 10686 | 10688 | 10688 | 10036 | 26594 | 10306 |
| RAD 475 SL | 10686 | 10688 | 10688 | 10036 | 26594 | 10306 |
| RAD 10 GX | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| RAD 10 GX-R | 13512 | 12902 | 13442 | 13773 | n/a | 12733 |
| RAD 14 GX | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| RAD 20 DX | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |
| RAD 20 DX-NX | 19772 | n/a | n/a | 20153 | n/a | n/a |
| RAD 20 NDX-R | 19772 | n/a | n/a | 20153 | n/a | n/a |
| RAD 2400 NG | 10004 | 10007 | 10009 | 10005 | 24283 | 10014 |
| RAD 2400 NGX-R | 13484 | 13515 | 13516 | 13513 | n/a | 13476 |
| RAD 34 GX | 20120 | 18251 | 10516 | 10513 | 27504 | 10509 |
| RAD 40 DX | 27022 | 24814 | 25437 | 24813 | 29430 | 21474 |
| RAD 46 GX | 17748 | 11534 | 11533 | 11530 | 25990 | 11350 |
| RAD 70 DX | 25286 | 26118 | 26119 | 26120 | n/a | 21455 |
| RAD 80 DX | 15840 | 15788 | 15790 | 15373 | n/a | 15367 |
| RAD 110 DX | 23144 | 13508 | 13509 | 13505 | n/a | 11930 |
| RAD 115 GX | 23144 | 13508 | 13509 | 13505 | n/a | 11930 |
| RAD 150 DX | 23776 | On request | 26158 | 26159 | n/a | 18301 |

SDM Gearboxes

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| SDM 550 | 10686 | 10687 | 10686 | 10036 | n/a | 10306 |
| SDM 550 | 10686 | 10687 | 10686 | 10036 | n/a | 10306 |
| SDM 340 | 28760 | 28761 | 28762 | 28771 | 28774 | 14360 |
| SDM 680 | 28760 | 28761 | 28762 | 28771 | 28774 | 14360 |
| SDM 1400 | 19260 | 13367 | 13368 | 13364 | n/a | 12733 |
| SDM 2000 | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |

Battery

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|---------------------------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| B-RAD 100 | 10686 | 10687 | 10688 | 10036 | 21243 | 10306 |
| (M)B-RAD (SELECT) 275/300 | 10686 | 10687 | 10688 | 10036 | 21243 | 10306 |
| B-RAD 475 | 10686 | 10687 | 10688 | 10036 | 21243 | 10306 |
| (M)B-RAD (SELECT) 700 (-S) | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| B-RAD (SELECT) 950 | 14213 | 18480 | 19094 | 17888 | 25242 | 12733 |
| (M)B-RAD (SELECT) 1400 (-S) | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| (M)B-RAD (SELECT) 2000 (-S) | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |
| (M)B-RAD (SELECT) 4000 (-S) | 27022 | 24814 | 25437 | 24813 | 29430 | 21474 |
| (M)B-RAD (SELECT) (X) 7000 (-S) | 25286 | 26118 | 26119 | 26120 | n/a | 21455 |
| B-RAD X 10K | 23144 | 13508 | 13509 | 13505 | n/a | 11930 |
| B-RAD X 15K | 25665 | On request | 26158 | 26159 | n/a | 18301 |

Electric

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|-------------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| V-RAD SELECT 1400 | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| V-RAD SELECT 2000 | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |
| V-RAD SELECT 4000 | 27022 | 24814 | 25437 | 24813 | 29430 | 17367 |
| V-RAD 6 | 10686 | 10687 | 10688 | 10036 | 21243 | 10306 |
| V-RAD 14 | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| V-RAD 21 | 10004 | 10007 | 10009 | 10005 | 27917 | 10014 |
| V-RAD 31 | 16670 | 10515 | 10516 | 10513 | 23472 | 10509 |
| MV-RAD 6 | 10686 | 10687 | 10688 | 10036 | 21243 | 10306 |
| MV-RAD 14 | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| MV-RAD 20 | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |
| MV-RAD 21 | 10004 | 10007 | 10009 | 10005 | 27917 | 10014 |
| MV-RAD 34 | 16670 | 10515 | 10516 | 10513 | 23472 | 10509 |
| MV-RAD 45 | 17748 | 11534 | 11533 | 11530 | 25990 | 11350 |
| MV-RAD 60 | 10039 | 10401 | 10403 | 10040 | n/a | 10032 |
| MV-RAD 70 | 25286 | 26118 | 26119 | 26120 | n/a | 21455 |
| MV-RAD 80 | 15840 | 15788 | 15790 | 15373 | n/a | 15367 |
| MV-RAD 110 | 23144 | 13508 | 13509 | 13505 | n/a | 11930 |

Electric

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|---------------------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| E-RAD (BLU) 950 (-S) | 19260 | 13367 | 13368 | 13364 | 25243 | 12733 |
| E-RAD 1600 | 10004 | 10007 | 10009 | 10005 | 24283 | 10014 |
| E-RAD (BLU) 2000 | 14213 | 18480 | 19094 | 17888 | 25242 | 17367 |
| E-RAD 2700 | 10247 | 10395 | 10397 | 10394 | 26341 | 10038 |
| E-RAD (BLU) 3400 (-S) | 20120 | 18251 | 10516 | 10513 | 23472 | 10509 |
| E-RAD (BLU) 4000 (-S) | 17748 | 11534 | 11533 | 11530 | 25990 | 11350 |
| E-RAD 5400 | 10039 | 10401 | 10403 | 10040 | n/a | 10032 |
| E-RAD (BLU) 8000 (-S) | 15840 | 15788 | 15790 | 16260 | n/a | 15367 |
| E-RAD BLU 10K (-S) | 23144 | 13508 | 13509 | 13505 | n/a | 11930 |
| E-RAD BLU 15K (-S) | 23776 | On request | 26158 | 26159 | n/a | 18301 |
| E-RAD BLU 15K (16.500 Nm) | 23776 | On request | 26158 | 26159 | n/a | 18301 |

Accessories

| Tool Model | Standard | Deep socket | Double ended arm | Blank | Safety sliding reaction arm | Retaining ring |
|--------------------------|----------|-------------|------------------|-------|-----------------------------|----------------|
| Nose Extension for 14 GX | 11842 | 13512 | n/a | n/a | 21292 | 12733 |
| Nose Extension for 20 DX | 19772 | 20153 | n/a | n/a | 21294 | 12733 |
| Nose Extension for 40 DX | 13515 | 13484 | n/a | n/a | 29430 | 13476 |

All sliding reaction arms can be adapted to the specific application. If you have specific goals, please fill out the download form from our website or consult your Radial contact.

Custom made reaction arms

If a standard reaction arm is not suitable for the job, Radial is able to quickly provide you with custom engineered reaction arms, fully within safety standards.

In addition to this, blank weldable reaction arms can be supplied for quick and easy customization.



IMPACT SOCKETS



To complete your toolkit, Radial offers a wide variety of impact sockets, available in metric and imperial sizes. All impact sockets are made of hardened steel and manufactured according to Radial's high quality standards. The impact sockets are equipped with a locking pin and an O-ring.

Radial's standard metric impact socket range can be found below. For other sizes, please consult your Radial contact person.

| Prod.No. | Size | Type | Square drive | Gearbox |
|----------|------|------|--------------|---------|
| 200187 | 17MM | 6PT | 3/4" | 275 |
| 200188 | 19MM | 6PT | 3/4" | 275 |
| 200189 | 22MM | 6PT | 3/4" | 275 |
| 200190 | 24MM | 6PT | 3/4" | 275 |
| 200210 | 27MM | 6PT | 3/4" | 275 |
| 300137 | 29MM | 6PT | 3/4" | 275 |
| 200211 | 30MM | 6PT | 3/4" | 275 |
| 200189 | 22MM | 6PT | 3/4" | 700 |
| 200190 | 24MM | 6PT | 3/4" | 700 |
| 200210 | 27MM | 6PT | 3/4" | 700 |
| 200211 | 30MM | 6PT | 3/4" | 700 |
| 200212 | 32MM | 6PT | 3/4" | 700 |
| 200004 | 36MM | 6PT | 3/4" | 700 |
| 200005 | 41MM | 6PT | 3/4" | 700 |
| 200189 | 22MM | 6PT | 3/4" | 950 |
| 200190 | 24MM | 6PT | 3/4" | 950 |
| 200210 | 27MM | 6PT | 3/4" | 950 |
| 200211 | 30MM | 6PT | 3/4" | 950 |
| 200212 | 32MM | 6PT | 3/4" | 950 |
| 200004 | 36MM | 6PT | 3/4" | 950 |
| 200005 | 41MM | 6PT | 3/4" | 950 |
| 200190 | 24MM | 6PT | 3/4" | 1400 |
| 200210 | 27MM | 6PT | 3/4" | 1400 |
| 200211 | 30MM | 6PT | 3/4" | 1400 |
| 200212 | 32MM | 6PT | 3/4" | 1400 |
| 200004 | 36MM | 6PT | 3/4" | 1400 |
| 200005 | 41MM | 6PT | 3/4" | 1400 |
| 200006 | 46MM | 6PT | 3/4" | 1400 |
| 200216 | 50MM | 6PT | 3/4" | 1400 |
| 200222 | 27MM | 6PT | 1" | 2000 |
| 200223 | 30MM | 6PT | 1" | 2000 |
| 200224 | 32MM | 6PT | 1" | 2000 |
| 200225 | 33MM | 6PT | 1" | 2000 |
| 200227 | 36MM | 6PT | 1" | 2000 |
| 200228 | 38MM | 6PT | 1" | 2000 |
| 200229 | 41MM | 6PT | 1" | 2000 |



IMPACT SOCKETS

| Prod.No. | Size | Type | Square drive | Gearbox |
|----------|------|------|--------------|---------|
| 200230 | 46MM | 6PT | 1" | 2000 |
| 200007 | 50MM | 6PT | 1" | 2000 |
| 200008 | 55MM | 6PT | 1" | 2000 |
| 200223 | 30MM | 6PT | 1" | 3400 |
| 200224 | 32MM | 6PT | 1" | 3400 |
| 200225 | 33MM | 6PT | 1" | 3400 |
| 200227 | 36MM | 6PT | 1" | 3400 |
| 200228 | 38MM | 6PT | 1" | 3400 |
| 200229 | 41MM | 6PT | 1" | 3400 |
| 200230 | 46MM | 6PT | 1" | 3400 |
| 200007 | 50MM | 6PT | 1" | 3400 |
| 200008 | 55MM | 6PT | 1" | 3400 |
| 200009 | 60MM | 6PT | 1" | 3400 |
| 200010 | 65MM | 6PT | 1" | 3400 |
| 200223 | 30MM | 6PT | 1" | 4000 |
| 200224 | 32MM | 6PT | 1" | 4000 |
| 200225 | 33MM | 6PT | 1" | 4000 |
| 200227 | 36MM | 6PT | 1" | 4000 |
| 200228 | 38MM | 6PT | 1" | 4000 |
| 200229 | 41MM | 6PT | 1" | 4000 |
| 200230 | 46MM | 6PT | 1" | 4000 |
| 200007 | 50MM | 6PT | 1" | 4000 |
| 200008 | 55MM | 6PT | 1" | 4000 |
| 200009 | 60MM | 6PT | 1" | 4000 |
| 200010 | 65MM | 6PT | 1" | 4000 |
| 200231 | 70MM | 6PT | 1" | 4000 |
| 200233 | 36MM | 6PT | 1½" | 7000 |
| 200234 | 38MM | 6PT | 1½" | 7000 |
| 200235 | 41MM | 6PT | 1½" | 7000 |
| 200251 | 46MM | 6PT | 1½" | 7000 |
| 200237 | 50MM | 6PT | 1½" | 7000 |
| 200238 | 55MM | 6PT | 1½" | 7000 |
| 200297 | 60MM | 6PT | 1½" | 7000 |
| 200196 | 65MM | 6PT | 1½" | 7000 |
| 300052 | 70MM | 6PT | 1½" | 7000 |
| 200197 | 75MM | 6PT | 1½" | 7000 |
| 200241 | 80MM | 6PT | 1½" | 7000 |
| 200235 | 41MM | 6PT | 1½" | 8000 |
| 200251 | 46MM | 6PT | 1½" | 8000 |
| 200237 | 50MM | 6PT | 1½" | 8000 |
| 200238 | 55MM | 6PT | 1½" | 8000 |
| 200297 | 60MM | 6PT | 1½" | 8000 |
| 200196 | 65MM | 6PT | 1½" | 8000 |
| 300052 | 70MM | 6PT | 1½" | 8000 |
| 200197 | 75MM | 6PT | 1½" | 8000 |
| 200241 | 80MM | 6PT | 1½" | 8000 |
| 200198 | 85MM | 6PT | 1½" | 8000 |
| 200237 | 50MM | 6PT | 1½" | 10.000 |

| Prod.No. | Size | Type | Square drive | Gearbox |
|----------|-------|------|--------------|---------|
| 200238 | 55MM | 6PT | 1½" | 10.000 |
| 200297 | 60MM | 6PT | 1½" | 10.000 |
| 200196 | 65MM | 6PT | 1½" | 10.000 |
| 300052 | 70MM | 6PT | 1½" | 10.000 |
| 200197 | 75MM | 6PT | 1½" | 10.000 |
| 200241 | 80MM | 6PT | 1½" | 10.000 |
| 200198 | 85MM | 6PT | 1½" | 10.000 |
| 200298 | 90MM | 6PT | 1½" | 10.000 |
| 200196 | 65MM | 6PT | 1½" | 15.000 |
| 300052 | 70MM | 6PT | 1½" | 15.000 |
| 200197 | 75MM | 6PT | 1½" | 15.000 |
| 200241 | 80MM | 6PT | 1½" | 15.000 |
| 200198 | 85MM | 6PT | 1½" | 15.000 |
| 200298 | 90MM | 6PT | 1½" | 15.000 |
| 200199 | 95MM | 6PT | 1½" | 15.000 |
| 300053 | 100MM | 6PT | 1½" | 15.000 |
| 300060 | 105MM | 6PT | 1½" | 15.000 |
| 200209 | 110MM | 6PT | 1½" | 15.000 |
| 200435 | 80MM | 6PT | 2½" | 15.000 |
| 200247 | 90MM | 6PT | 2½" | 15.000 |
| 200437 | 100MM | 6PT | 2½" | 15.000 |
| 200438 | 110MM | 6PT | 2½" | 15.000 |



CALIBRATION SYSTEMS

RAD Transducer series

Torque range: 100 - 9.500 Nm

The accuracy and the repeatability of RAD Calibration benches have earned them an excellent reputation in calibration laboratories around the world. The RAD Tube Style Calibration System was specially designed to calibrate RAD (and similar) torque wrenches. With the Tube Style bench design RAD was able to further reduce torque deflection, therefore increasing the accuracy of the torque reading. The specially designed reaction arm slot allows for much faster calibration of tools.

The system is available in three sizes which can be equipped with two transducer sizes depending on the required torque. The calibration values can be read directly from the transducer screen. In addition, the calibration values can be read and stored by linking the RAD transducer to the supplied tablet using the RAD calibration software.

The RAD Calibration System consists of the Tube Style bench, the transducer, the simulation joint, impact sockets and a preinstalled laptop with the requisite RAD calibration software.

All RAD calibration benches include:

- RAD Transducer
- Tube Style bench
- Simulation joint
- Impact Sockets
- Pre-installed Windows laptop
- ISO 17025 accredited calibration certificate



| Prod.no. | Model | Drive size | Torque range | Weight | Dim. L | Dim. H | Dim. W |
|----------|-----------------------------|------------|----------------|---------|--------|--------|--------|
| 23442 | CALIBRATION SYSTEM RAD 1500 | 1" | 100 - 2.000 Nm | 13,6 Kg | 247 mm | 138 mm | 281 mm |
| 23443 | CALIBRATION SYSTEM RAD 3500 | 1" | 250 - 4.750 Nm | 28,9 Kg | 368 mm | 177 mm | 332 mm |
| 23444 | CALIBRATION SYSTEM RAD 7000 | 1½" | 475 - 9.500 Nm | 29,3 Kg | 368 mm | 177 mm | 332 mm |

FEATURES:

- Torque range up to 9.500 Nm
- Fully traceable calibration system, with recognized ISO 17025 calibration certificate
- Screen on transducer makes it easy to read calibration value
- The transducer is interchangeable with previous RAD RCA Calibration benches



Mobile Calibration Bench (MCB) EXCLUSIVE

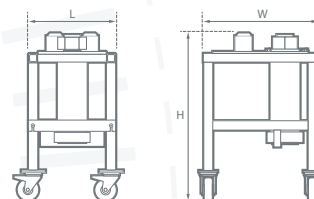
Torque range: 4.000 - 16.200 Nm

For larger capacity torque tools, Radial can provide the MCB calibration bench; This mobile calibration system utilizes standard M72 bolts and the ISO 17025 certified RAD Smart Socket™. With the vertical tool position and the use of standard bolts, this calibration setup closely mimics real-life field applications, such as wind tower flange connections. It features excellent ergonomics due to its vertical calibration position and is highly mobile, thanks to its four castor wheels. In addition to calibrating continuous rotation tools, the MCB is also suitable for static calibrations with a torque range of 1.100 Nm up to 16.200 Nm.



The Mobile high torque calibration benches include:

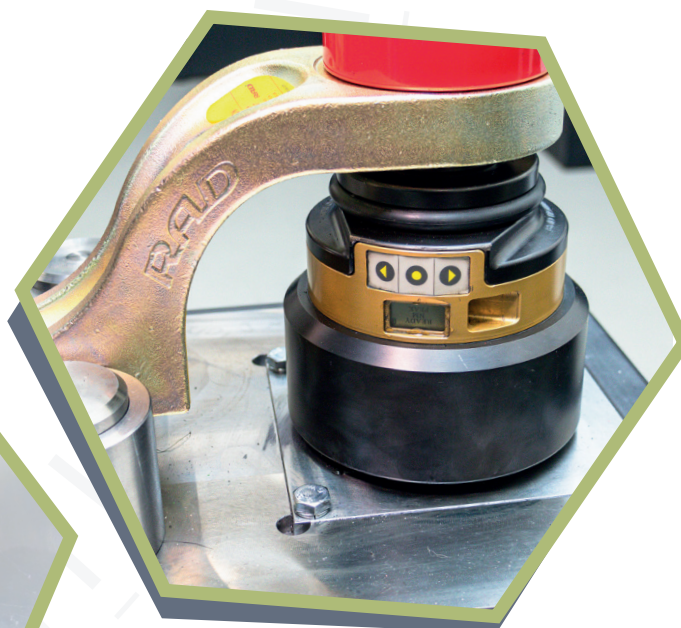
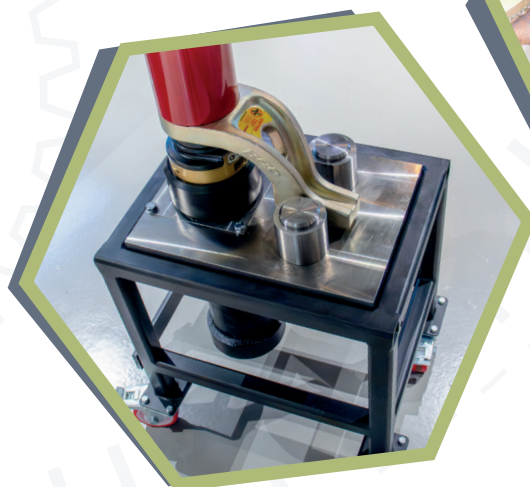
- Bench with bolt set and castor wheels
- RAD Smart Socket™ 110 mm / 16.200 Nm
- 2 additional M72 bolts, washer and nuts
- 1 additional wear plate
- Molykote grease
- Calibration certificate of transducer
- Pre-installed Android tablet
- Including calibration or verification software templates



| Prod.No. | Model | Torque range | Weight | Dim. L | Dim. H | Dim. W |
|----------|-------|-------------------|--------|--------|--------|--------|
| 301100 | MCB | 4.000 - 16.200 Nm | 120 Kg | 384 | 743 | 504 |

FEATURES:

- Torque range up to 16.200 Nm
- Fully traceable torque transducer, with recognized ISO 17025 calibration certificate



BACKUP WRENCHES

A backup wrench will prevent rotation of the bolt or stud when the nut is being tightened. There is no need to hold the backup wrench in place during tightening, which makes bolting jobs a lot safer. Although the backup wrench will be locked in place after tightening, it can be easily removed by loosening the small hex bolt. Compared to conventional methods with crowbars or spanners with hammers, this solution is substantially safer, especially at high load joints.

The backup wrench consists of two parts: the handle and a spanner cartridge.

FEATURES:

- Hands free operation
- Lightweight
- Robust and flexible
- Mechanical operation - not hydraulic
- Easy and simple to release after mounting the bolt connection
- Maintenance free



The backup wrenches from Radial are available as a complete set or per hex size.

Complete set

| Prod.no. | Hex size | Hex type |
|----------|---------------|----------|
| 300754 | 36 mm - 80 mm | 12PT |

The set will be supplied in a weatherproof case.

Choose separate handle and cartridges

1. Choose handle

| Prod.no. | Model | Suitable for |
|----------|--------|---------------|
| 300789 | Handle | 36 mm - 80 mm |

2. Choose cartridges

| Prod.no. | Hex size | Hex type |
|----------|----------|----------|
| 300790 | 36 mm | 12PT |
| 300791 | 41 mm | 12PT |
| 300792 | 46 mm | 12PT |
| 300793 | 50 mm | 12PT |
| 300794 | 55 mm | 12PT |
| 300795 | 60 mm | 12PT |
| 300796 | 65 mm | 12PT |
| 300797 | 70 mm | 12PT |
| 300798 | 75 mm | 12PT |
| 300799 | 80 mm | 12PT |

REMOTE PENDANT CONTROLS



ACCESSORIES

Remote Pendant Controls

For applications where it is required that the operator is distanced from the torque operation, or to enable automated bolt tightening, RAD offers the option of Remote Pendant controls for various models.

Pneumatic:

Commonly used for high pressure valve testing, the Remote Pendant Control allows forward and reverse operation from a distance of up to 10 meters. This allows the valves to be operated safely.

Part number: 10180

V-RAD/MV-RAD:

Suitable for operating the electric MV-RAD Series tools. A good application example for a pendant controlled MV-RAD is tightening critical bolts in the so called "hot zone" of a nuclear power plant.

Part number: 240837

E-RAD/E-RAD-S:

For the E-RAD Series we offer a special Remote Pendant Control to operate the E-RAD remotely by means of a remote control with a 10 meter cable. The remote control connection on the E-RAD control box is usually used to connect the E-RAD to a robot for automated bolt tightening systems.

Part number: 26836



TORQUE TOOL FLANGE ROLLER

As modern wind towers continue to grow in output and size, so do the dimensions of their components and the tools used for their erection and maintenance.

In order to facilitate the handling of the bolting tools that are used during the tightening process, Radial Torque Tools has developed the "Torque Tool Flange Roller". This device negates the need for the operator to lift heavy bolting tools from bolt to bolt during the bolting process and reduces operator fatigue dramatically when tightening the countless flange bolts in the wind tower.

Applicability

The roller can be used with various models of RAD Torque wrenches such as the E-RAD and B-RAD X Series, which are able to tighten tower bolts ranging from M42 up to M72. The roller itself weighs in at only 12 kg and can be easily transported and assembled up tower in minutes. The roller can be used more or less wherever the RAD torque tool normally fits as the roller sits lower than the torque tool itself and it hardly extends to the front of the tower flange. In addition, the flange roller is not or hardly deeper than the flange on which it rolls.

Installation method

The roller can be installed in a safe and simple manner: The RAD torque tool is placed as usual on the flange with the traditional reaction arm and socket whereafter the roller can be placed and locked manually from the front around the RAD multipliers' gearbox. After this, safety catches to prevent toppling of the system need to be adjusted to the bolt height and flange dimensions. If needed, the wheels can be aligned easily to precisely track the curvature of the flange. The entire process only takes 2-3 minutes to set up.

Main advantages

Greatly reduces operator fatigue and increases safety and speed. Standard RAD torque tools can be used, no modifications needed. Mechanical simplicity: easy onsite repair and cable free system. The roller can be adjusted to a wide range of flange dimensions and is free of cables.





The Torque Tool Flange Roller system contains the following items:

- Roller
- Transportation case

Available models:

- Part. No.: 200803
E-RAD 8000 / B-RAD X 7000
- Part. No.: 200804
E-RAD 15K / B-RAD X 15K



SAFETY

Ergonomics and safety are very important during the design phase of any new RAD tool. We believe that safety features should not impede workplace efficiency and speed but should make workers aware of the risks involved in working with powerful tools.

Investing in ergonomic and safety enhancing products is a wise decision since it will increase workers' safety substantially.



Ergonomics

Safety accessories are available to help reduce operator fatigue & prevent accidental tool operation.



Productivity

We have a variety of safety accessories to meet multiple needs, which help to keep workers safe and results in no injury downtime or lost time due to inspections.



Reliability

Reliability is safety, and this is our priority when designing and manufacturing safety accessories.

Tool safety features:

- Low noise level
- Non impacting
- 360° pistolgrip rotation.

In addition, all RAD torque wrenches include:

- Safety instructions on USB stick
- Warnings and attention notifications on tool and case
- Operators' manual.

Ergonomic features:

- RAD's patented planetary gear reduction drive system delivers 88 times less vibration than impact wrenches. No risk of HAVS injuries (Hand-Arm-Vibration-Syndrome) and the pistol grip trigger/control reduces operator fatigue.
- RAD's low profile reaction arm eliminates all the operational load on the operator.

Available ergonomic and safety enhancing products:

- Special Reaction Arms
- Double Safety Trigger Solutions
- Trigger and Hand Guards
- Tool Hangers

SPECIAL REACTION ARMS

All RAD tools include a standard reaction arm. In addition to this, you can order special reaction arms to ensure correct reaction for different applications.



STANDARD



BLANK



DEEP SOCKET



SLIDING

All safety sliding reaction arms can be customized to fit the application. If you have specific measurements, please consult your Radial contact person.



Please check proper reaction arm use and selection.



SAFETY ACCESSORIES

These systems dramatically reduce the pinching risk with the reaction arm as it forces the operator to always have two hands on the tool.

The Double Safety Buttons can be retrofitted on existing RAD torque wrenches.

Double Safety Button for B-RAD - option

All B-RAD torque wrenches can optionally be equipped with a “Double Safety Button”. This optional safety system consists of an extra button on the topside of the tool which need to be pressed simultaneously with the trigger to start operation of the tool.

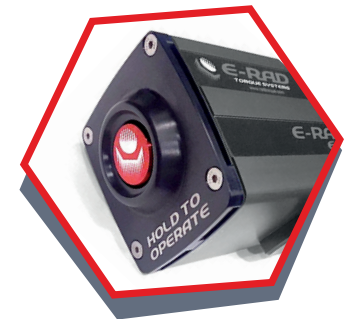
| Prod.no. | Double safety button model | Note | Suitable for |
|----------|-----------------------------------|-----------------|---------------------------------------|
| 25949 | B-RAD SELECT Double Safety Button | Hardware only | All B-RADs |
| 25950 | B-RAD SELECT Double Safety Button | Mounted on tool | All B-RADs |
| 33501 | B-RAD SELECT Smart Safety Button | Hardware only | All B-RADs |
| 33502 | B-RAD SELECT Smart Safety Button | Hardware only | Upgrade for all B-RADs with PN: 25950 |



Double Safety Button for E-RAD - option

The Double Safety Button for E-RAD torque wrenches is an extra button on the backside of the tool which needs to be pressed simultaneously with the trigger to start operation of the tool.

| Prod.no. | Double safety button model | Suitable for |
|----------|----------------------------|-----------------------------|
| 28797 | Double Safety Button | E-RAD 950, 2000 and 3400 |
| 28795 | Double Safety Button | E-RAD 4000, 8K, 10K and 15K |



Double Safety Button for MV-RAD - option

The Double Safety Button for MV-RAD torque wrenches is an extra button on the topside of the tool which needs to be pressed simultaneously with the trigger to start operation of the tool.

| Prod.no. | Double safety button model | Suitable for |
|----------|----------------------------|---|
| 240743 | Double Safety Button | MV-RAD 45, 70, 80 and 110 |
| 240717 | Double Safety Button | MV-RAD 14(-90°), 34(-90°), 45-90°, 70-90° and 110-90° |



Double Safety Trigger for Pneumatic - option

The Double Safety Trigger for all RAD pneumatic series torque wrenches is an extra valve on the back of the tool which needs to be pressed simultaneously with the trigger to start operation of the tool.

| Prod.no. | Double safety button model | Suitable for |
|----------|---------------------------------|---|
| 200142 | Double Safety Trigger - NPW 120 | 100 SL, 275 SL, 475 SL, 10 GX, 14 GX, 20 DX |
| 200143 | Double Safety Trigger - NPW 180 | 34 GX, 40 DX |
| 200144 | Double Safety Trigger - NPW 200 | 46 GX, 70 DX, 80 DX, 110 DX, 150 DX |



Trigger and Hand Guard - option

The anodized aluminium hand guard kit keeps the operator's hand protected during the bolting job and can be retrofitted on pneumatic existing tools.

Another item in our range of ergonomic and safety enhancing features is the trigger guard that protects the trigger from accidentally being pressed and the torque wrench being activated.

| Prod.no. | Hand guard kit model | Suitable for |
|----------|--------------------------|---|
| 21436 | Hand guard kit - NPW 120 | 100 SL, 275 SL, 475 SL, 10 GX, 14 GX, 20 DX |
| 21437 | Hand guard kit - NPW 180 | 34 GX, 40 DX |
| 21600 | Hand guard kit - NPW 200 | 46 GX, 70 DX, 110 DX, 150 DX |
| 21605 | Hand guard kit - NPW 200 | 80 DX |
| 12084 | Trigger stopper | All pneumatic wrenches |



Tool Handle & Hanger - option

The RAD tool handle & hanger is an extra handle that can be mounted on the gearbox of a RAD torque wrench for improved ergonomics.

This optional accessory can be ordered with all RAD torque wrenches, except the B-RAD-S and E-RAD-S because of the cable duct on the gearbox to power the built-in transducer.

The tool Handles & Hangers are included in all battery torque wrenches from 4.000 Nm up.



| Prod.no. | Suitable for |
|----------|---|
| 19827 | RAD 475 SL, 10 & 14 GX / B-RAD 100 & 475 / (M)B-RAD (SELECT) 275, 700 & 1400 / (M) V-RAD 6, 14 & 1400 / E-RAD BLU 950 |
| 19825 | RAD 20 DX / (M)B-RAD (SELECT) 950 & 2000 / (M)V-RAD (SELECT) 2000 / E-RAD BLU 2000 |
| 19823 | RAD 34 GX / (M)V-RAD 31, 34 & 3400 / E-RAD BLU 3400 |
| 26751 | RAD 40 DX / (M)B-RAD (SELECT) 4000 / (M)V-RAD SELECT 4000 |
| 19821 | RAD 46 GX / E-RAD BLU 4000 / MV-RAD 45 |
| 26674 | RAD 70 DX / MV-RAD 70 / (M)B-RAD (SELECT) (X) 7000 |
| 19819 | RAD 80 DX / E-RAD BLU 8000 / MV-RAD 80 |
| 22931 | RAD 110 DX / E-RAD BLU 10K / MV-RAD 110 / B-RAD X 10K |
| 19817 | RAD 115 GX / MV-RAD 120 |
| 26634 | RAD 150 DX / E-RAD BLU 15K / B-RAD X 15K |



PERSONAL SAFETY TIPS

- a. **Stay alert, watch what you are doing, and use common sense when operating a power tool.**
Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medication.
A moment of inattention while operating power tools may result in serious personal injury.
- b. **Use personal protective equipment and always wear eye protection.**
Protective equipment such as a dust mask, non-skid safety shoes, hard hat, and hearing protection used in appropriate conditions will reduce personal injuries.
- c. **Prevent unintentional starting. Ensure the switch is in the off position before connecting to a power source and/or battery pack, picking up, or carrying the tool.**
Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d. **Remove any adjusting key or wrench before turning the power tool on.**
A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. **Do not overreach. Always keep proper footing and balance.**
This enables better control of the power tool in unexpected situations.
- f. **Dress properly. Do not wear loose clothing or jewelry.**
Keep your hair, clothing, and gloves away from moving parts.
- g. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.**
A careless action can cause severe injury within a fraction of a second.
- h. **Keep hands away from the reaction arm at all times.**
Keep your hands clear of the reaction arm and joint when the tool is in operation.



USE OF REACTION ARMS

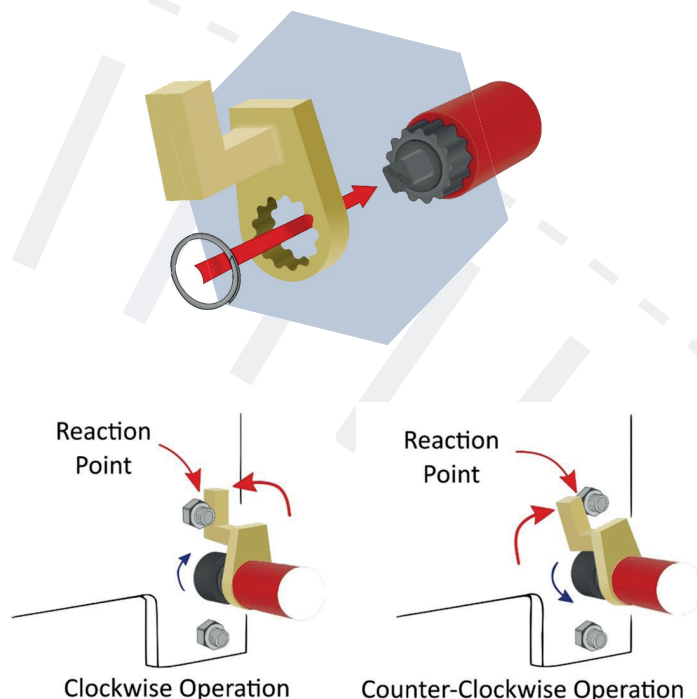
Please contact Radial Torque Tools B.V. or your local RAD Authorized Distributor for information on custom reaction arms.

INSTALLING THE REACTION ARM

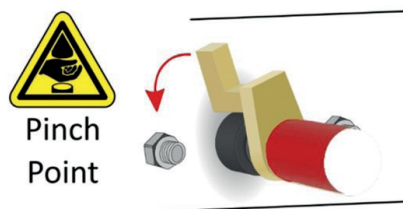
Slide the reaction arm onto the serpentine fitting and secure the retaining ring to hold the reaction arm in place. Couple the socket and square drive together with a dowel pin and secure with a rubber o-ring.

REACTION POINTS

Make sure that the reaction arm is in contact with a solid reaction point before you operate the tool. When the tool is in operation, the reaction arm rotates in the opposite direction to the output square drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened.



Personal Safety



Reaction arm height

Ensure that the height of the socket is even with the height of the reaction arm.

CORRECT:

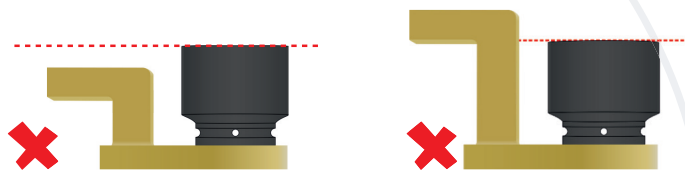
The reaction arm and socket are even.



The height of the socket cannot be shorter or longer than the height of the reaction arm.

INCORRECT:

The leg of the reaction arm is too short in the left image and too long in the right image.



Reaction arm foot

Ensure that the foot of the reaction arm aligns with the reaction point.

CORRECT:

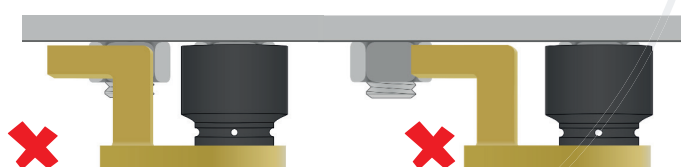
The foot of the reaction arm aligns with the reaction point.



The length of the foot cannot be shorter or longer than the reaction point.

INCORRECT:

The reaction point is too close in the left image and too far in the right image. Do not react against the heel of the reaction arm.

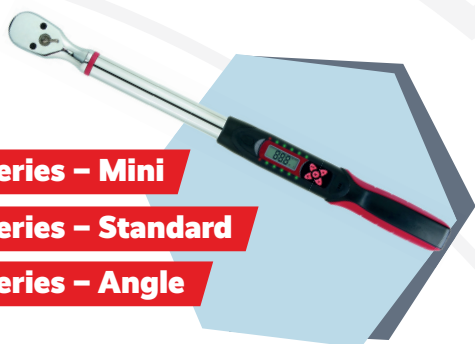


About TrackWrench®

For accurately tightening smaller size bolts, Radial has developed a range of digital manual torque wrenches marketed under the name TrackWrench®. A logical step in meeting the needs of our customers and complementing the RAD range that covers the larger bolt sizes and torques. TrackWrench® products are assembled in Europe and Taiwan and shipped to the customer from our warehouse in The Netherlands. The TrackWrench® solutions are aimed at the professional user and feature advanced functionalities such as datalogging and different tightening strategies. All TrackWrench® torque wrenches are equipped with a torque transducer and have no mechanical, and inaccurate, click system to increase accuracy and reduce the risk of overtorquing.

With our experienced team in the Netherlands, all TrackWrench® customers can rely on quick professional service, know-how and technical support.





EcoTorq-Series – Mini

EcoTorq-Series – Standard

EcoTorq-Series – Angle

EcoTorq-Series

Budget friendly with great specs for the demanding user of torque wrenches. Suitable for rugged conditions and ergonomically designed for repetitive use.

Software Solutions

- MasterTorque / CustomTorque
- Uploader
- RS232 ParaWriter

BlueTorq-Series

Advanced bi-directional torque wrenches with large OLED screen and optional with Bluetooth and vibrating handle.

Software Solutions

- PC Front-End Software
- Wheel-Torque Software
- BatchCapture Software

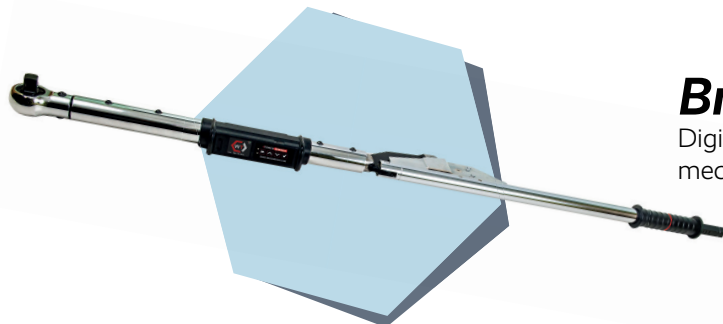


BlueTorq-Series – Super

BlueTorq-Series – Auditor

Vibrating handle upgrade

PN: 222360



BreakTorq-Series

Digital and mechanical torque wrench with breaking mechanism and torque transducer.

Optional: Wireless Upgrade

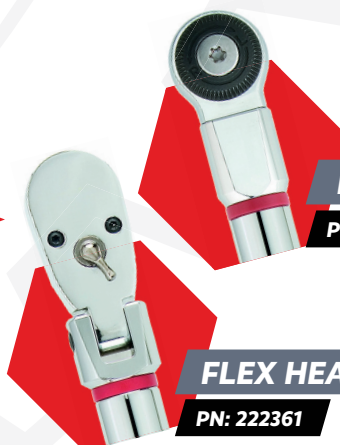
- Bluetooth Open Protocol
- 2-Way Bluetooth
Send & Receive

Optional: Vibrating handle

- When torque is reached



Option: Head Upgrade



ISO HEAD

PN: 222360

FLEX HEAD

PN: 222361

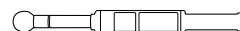


TrackWrench®

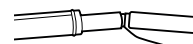
72 EcoTorq-Series
Torque range: 0.3 - 850 Nm



74 BlueTorq-Series
Torque range: 1 - 2.000 Nm



76 BreakTorq-Series
Torque range: 300 - 1.000 Nm



78 Verification
Test, validation & calibrate



80 Accessories



About TrackWrench®

In order to meet the necessities of our customers with low torque applications, Radial offers an extensive range of digital torque wrenches and accessories under the TrackWrench® name.

TrackWrench® products are assembled in Europe and Taiwan and shipped worldwide to customers from Soest, The Netherlands. With our experienced team in The Netherlands, all TrackWrench® customers can rely on quick professional service, know-how and technical facilities.

TrackWrench applied on engine

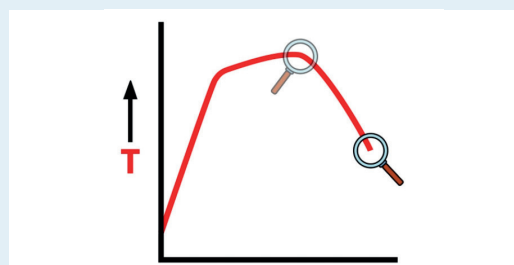
DIGITAL CONTROL WHICH ELIMINATES QUALITY ISSUES COMMON WITH “CLICKER” WRENCHES





Highlighted feature: **TRACK**

The torque applied is constantly tracked and displayed on the OLED display of the torque wrench. When the torque is released, the torque value displayed on the display will return to zero. Ready for the next torque application.



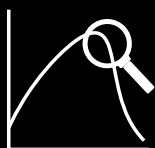
More info on page 83

EcoTorq-Series

| Feature | Mini | Standard | Angle |
|----------------------------|-------|----------------|----------------|
| Track | Yes | Yes | Yes |
| Peak | Yes | Yes | Yes |
| Presets | 9 | 9 | 9 |
| Torque & Angle | No | No | Yes |
| Data storage | 250 | 250 | 250 |
| Head | Fixed | Fixed/ISO/Flex | Fixed/ISO/Flex |
| Communication | Yes | Yes | Yes |
| Torque confirmation buzzer | Yes | Yes | Yes |
| Torque confirmation LEDs | 2 | 2 | 12 |



Accessories
Page 80



Feature comparison
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Software solutions
Page 83



EcoTorq-Series

Torque range: 0.3 – 850 Nm

Budget friendly with great specs for the demanding torque wrench user. Suitable for rugged conditions and ergonomically designed for repetitive use.

With the digital torque reading, overtorque is eliminated; a common problem with traditional click wrenches.

EcoTorq-Series – The economic choice

- Robust bi-directional fixed ratchet head
- Maximum deviation +/- 2% cw, +/- 3% ccw
- Torque only
- Non click
- Includes MasterTorque software
- Strain gauge technology for maximum accuracy.



LIGHT + DURABLE
Suitable for rugged conditions.
Ergonomically designed for repetitive use.

TRACEABLE
Transfer data via USB
to PC software.

FEEDBACK
Buzzer for Pass/Fail
signaling visual indication by LEDs.

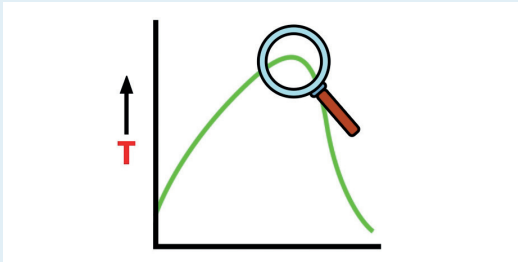
QUICK CONTROL
LCD display showing torque
values accompanied by 5 control
buttons for quick access.

| Model | PN Mini | PN Standard | PN Angle | Range | Ratchet | Length | Weight |
|--------|---------|-------------|----------|-------------|---------|---------|--------|
| EDW006 | 222300 | - | - | 0.3-0.6 Nm | ¼" | 216 mm | 0,2 Kg |
| EDW012 | 222301 | - | - | 0.6-12 Nm | ¼" | 216 mm | 0,2 Kg |
| EDW020 | 222302 | - | - | 1-20 Nm | ¼" | 216 mm | 0,2 Kg |
| EDW030 | 222303 | 222306 | 222318 | 1.5-30 Nm | ¼" | 216 mm | 0,2 Kg |
| EDW060 | 222304 | - | - | 3-60 Nm | ⅜" | 290 mm | 0,3 Kg |
| EDW085 | 222305 | - | - | 4.25-85 Nm | ½" | 290 mm | 0,3 Kg |
| EDW135 | - | 222309 | 222321 | 6.8-135 Nm | ⅜" | 415 mm | n/a |
| EDW200 | - | 222312 | 222324 | 10-200 Nm | ½" | 530 mm | n/a |
| EDW340 | - | 222315 | 222327 | 17-340 Nm | ½" | 650 mm | n/a |
| EDW500 | - | 222348 | 222330 | 25-500 Nm | ⅜" | 950 mm | n/a |
| EDW850 | - | 222349 | 222331 | 42.5-850 Nm | ⅜" | 1200 mm | n/a |



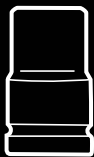
Highlighted feature:
PEAK

Peak mode captures and holds the value of the maximum torque that is applied during the bolting job. Store the results directly to the memory of the torque wrench with just one button or continue to the next torque application right away.

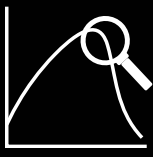


More info on page 83

| BlueTorq-Series | | | |
|----------------------------|-------|----------------|----------------|
| Feature | Mini | Standard | Angle |
| Track | Yes | Yes | Yes |
| Peak | Yes | Yes | Yes |
| Presets | 9 | 9 | 9 |
| Torque & Angle | No | No | Yes |
| Data storage | 250 | 250 | 250 |
| Head | Fixed | Fixed/ISO/Flex | Fixed/ISO/Flex |
| Communication | Yes | Yes | Yes |
| Torque confirmation buzzer | Yes | Yes | Yes |
| Torque confirmation LEDs | 2 | 2 | 12 |



Accessories
Page 80



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BlueTorq-Series

Torque range: 1 – 2.000 Nm

Advanced bi-directional torque wrenches with large OLED screen and optional with Bluetooth and vibrating handle for the professional user..

With the digital torque reading, overtorque is eliminated; a common problem with traditional click wrenches.

BlueTorq-Series – The professional's choice

- Bi-directional maximum allowed deviation +/- 1% of actual measurement reading
- Torque only and Torque & Angle modes available – see model selection table below
- Custom factory setting with ratchet rotated 90° for vertical applications
- Battery life: 180 hrs
- Languages: English, German, French, Spanish, Italian, Russian, Polish, Portuguese, Chinese
- Units: Nm, ozf.in, lbf.in, lbf.ft, kgf.cm, kgf.m

Compatible with:

Pro Tight

Accessories on page 80



SMART + EASY

Packed full of intelligent features. Easy to master.

LIGHT + DURABLE

Suitable for rugged conditions. Ergonomically designed for repetitive use.

CLEAR + DISTINCT

Bright OLED display with progress bar & buzzer for pass/fail signalling.

TRACEABLE

Transfer data via USB to PC software or upgrade to one of the wireless options.

| Model | PN Super | PN Auditor | Range | Ratchet | Length | Weight |
|--------|----------|------------|--------------|--------------|---------|--------|
| DW010 | 221070 | 221076 | 1-10 Nm | 1/4" or 3/8" | 410 mm | 0,9 Kg |
| DW020 | 221088 | 221094 | 2-20 Nm | 1/4" or 3/8" | 410 mm | 0,9 Kg |
| DW050 | 221106 | 221112 | 5-50 Nm | 3/8" | 410 mm | 0,9 Kg |
| DW100 | 221124 | 221130 | 10-100 Nm | 3/8" | 410 mm | 0,9 Kg |
| DW200 | 221142 | 221148 | 20-200 Nm | 1/2" | 625 mm | 1,3 Kg |
| DW340 | 221160 | 221166 | 34-340 Nm | 1/2" | 625 mm | 1,3 Kg |
| DW600 | 221178 | 221184 | 60-600 Nm | 3/4" | 1250 mm | 4,0 Kg |
| DW800 | 221196 | 221202 | 80-800 Nm | 3/4" | 1360 mm | 6,0 Kg |
| DW1000 | 221232 | 221238 | 100-1.000 Nm | 3/4" | 1360 mm | 6,0 Kg |
| DW1500 | 221250 | 221256 | 150-1.500 Nm | 1" | 1600 mm | 8,0 Kg |
| DW2000 | 221269 | 221275 | 200-2.000 Nm | 1" | 1600 mm | 8,0 Kg |



TRACKWRENCH®

Highlighted feature: **BREAK MECHANISM**

The breaking mechanism mitigates risk of overtorque due to an ingenious mechanism that breaks when the desired torque is reached. The breaking point is adjustable from 350 Nm to 1000 Nm and the final torque will be displayed on the OLED display of the BreakTorq.

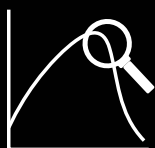


More info on page 83

| BreakTorq-Series | | | |
|------------------|------------|---------|--------|
| Feature | Mechanical | Digital | Preset |
| Track | No | Yes | Yes |
| Peak | No | Yes | Yes |
| Presets | No | 99 | 99 |
| PC Software | No | Yes | Yes |



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Software solutions
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BreakTorq-Series

Torque range: 300 – 1.000 Nm

Digital and mechanical torque wrench with breaking mechanism. To prevent overtorquing on high torque levels.

BreakTorq-Series – Break with tradition

- Maximum deviation +/- 1%
- Breaking repeatability +/- 4%
- Record “as found” results
- Capture set torque for full traceability
- Breaking angle of 20°
- Battery life: 180 hrs
- Includes Wheeltorque software
- Languages: English, German, French, Spanish, Italian, Russian, Polish, Portuguese, Chinese
- Units: Nm, ozf.in, lbf.in, lbf.ft, kgf.cm, kgf.m



SMART + EASY

Packed full of intelligent features. Easy to master.

LIGHT + DURABLE

Suitable for rugged conditions. Ergonomically designed for repetitive use.

CLEAR + DISTINCT

Bright OLED display with progress bar & buzzer for pass/fail signalling.

TRACEABLE

Transfer data via USB to PC software or upgrade to one of the wireless options.

| Model | PN Basis | Range | Ratchet | Length | Weight |
|-------|----------|--------------|---------|---------|--------|
| DW010 | 221290 | 300-1.000 Nm | 1" | 1370 mm | 8,8 Kg |

VERIFICATION



Digital Torque Tester DTT010
Range: 1 – 10 Nm



Digital Torque Tester DTT020
Range: 2 – 20 Nm



Digital Torque Tester DTT050
Range: 5 – 50 Nm



Digital Torque Tester DTT100
Range: 10 – 100 Nm



Digital Torque Tester DTT200
Range: 20 – 200 Nm



Digital Torque Tester DTT340
Range: 34 – 340 Nm



Digital Torque Tester DTT600
Range: 60 – 600 Nm



Digital Torque Tester DTT800
Range: 80 – 800 Nm



Digital Torque Tester DTT1000
Range: 100 – 1.000 Nm



Digital Torque Tester DTT1500
Range: 15 – 1.500 Nm



Digital Torque Tester DTT2000
Range: 200 – 2.000 Nm



Torque Tester Display TTD
PN: 221020



Benchtype Torque Tester BTT340
PN: 221156



Benchtype Torque Tester BTT1000
PN: 221153

| Digital Torque Testers | | |
|------------------------|-----|-----|
| Feature | DTT | BTT |
| Track | Yes | Yes |
| Peak | Yes | Yes |
| Presets | 99 | 99 |
| Click Torque | Yes | Yes |
| Dynamic Preset | Yes | Yes |
| PC Software | Yes | Yes |

Torque testing equipment

Our solution for daily verification of the accuracy of your manual torque wrenches.

Torque range: 1 – 2.000 Nm

Suitable for digital and mechanical torque wrenches with or without breaking mechanism.

Calibration Equipment – Straightforward compliance

- Maximum deviation +/- 0.5% of actual reading
- Torque test using torque presets
- Capture first peak & dynamic peak
- WDR and Smart Transducers are interchangeable
- Test continuous-drive tools (max.1200 RPM) & hand-driven torque tools
- Languages: English, German, French, Spanish, Italian, Russian, Polish, Portuguese, Chinese
- Units: Nm, ozf.in, lbf.in, lbf.ft, kgf.cm, kgf.m



SMART + EASY
Packed with intelligent features.
Easy to master.

ROBUST & ACCURATE
Advanced materials suitable for
rigorous use and highly accurate
testing.

CLEAR + DISTINCT
Bright OLED display with
progress bar & buzzer for pass/
fail LED signaling (Torque Tester
Display).

TRACEABLE
Transfer data via USB to PC
software or upgrade to one of our
wireless options.

| Model | Range | Ratchet | Length | Weight |
|--------|--------------|--------------|---------|--------|
| DW010 | 1-10 Nm | 1/4" or 3/8" | 410 mm | 0,9 Kg |
| DW020 | 2-20 Nm | 1/4" or 3/8" | 410 mm | 0,9 Kg |
| DW050 | 5-50 Nm | 3/8" | 410 mm | 0,9 Kg |
| DW100 | 10-100 Nm | 3/8" | 410 mm | 0,9 Kg |
| DW200 | 20-200 Nm | 1/2" | 625 mm | 1,3 Kg |
| DW340 | 34-340 Nm | 1/2" | 625 mm | 1,3 Kg |
| DW600 | 60-600 Nm | 3/4" | 1250 mm | 4,0 Kg |
| DW800 | 80-800 Nm | 3/4" | 1360 mm | 6,0 Kg |
| DW1000 | 100-1.000 Nm | 3/4" | 1360 mm | 6,0 Kg |
| DW1500 | 150-1.500 Nm | 1" | 1600 mm | 8,0 Kg |
| DW2000 | 200-2.000 Nm | 1" | 1600 mm | 8,0 Kg |

ACCESSORIES

1/4" WERA SOCKET SET

5mm – 13mm

PN: 200708



- 9-piece socket set on Velcro strap, 1/4" drive.
- For both manual and machine use.
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Belt + Velcro

Socket assortment:

| | |
|------------------|-------------------|
| • 1 x 5.0 x 23.0 | • 1 x 10.0 x 23.0 |
| • 1 x 5.5 x 23.0 | • 1 x 11.0 x 23.0 |
| • 1 x 6.0 x 23.0 | • 1 x 12.0 x 23.0 |
| • 1 x 7.0 x 23.0 | • 1 x 13.0 x 23.0 |
| • 1 x 8.0 x 23.0 | |

3/8" WERA SOCKET SET

8mm – 19mm

PN: 200710



- 9-piece socket set on Velcro strap, 3/8" drive.
- For both manual and machine use.
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Belt + Velcro

Socket assortment:

| | |
|-------------------|-------------------|
| • 1 x 8.0 x 29.0 | • 1 x 16.0 x 29.0 |
| • 1 x 10.0 x 29.0 | • 1 x 17.0 x 29.0 |
| • 1 x 12.0 x 29.0 | • 1 x 18.0 x 29.0 |
| • 1 x 13.0 x 29.0 | • 1 x 19.0 x 29.0 |
| • 1 x 15.0 x 29.0 | |

1/2" WERA SOCKET SET

10mm – 19mm

PN: 200712



- 9-piece socket set on Velcro strap, 1/2" drive.
- For both manual and machine use.
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Pencil case + Velcro

Socket assortment:

| | |
|-------------------|-------------------|
| • 1 x 10.0 x 37.0 | • 1 x 15.0 x 37.0 |
| • 1 x 11.0 x 37.0 | • 1 x 16.0 x 37.0 |
| • 1 x 12.0 x 37.0 | • 1 x 17.0 x 37.0 |
| • 1 x 13.0 x 37.0 | • 1 x 18.0 x 37.0 |
| • 1 x 14.0 x 37.0 | • 1 x 19.0 x 37.0 |

1/4" WERA ALLEN SET

2mm – 8mm

PN: 200709



- 8-piece socket set on Velcro strap, 1/4" drive.
- For both manual and machine use.
- Hexagon socket bit caps with retention function for hexagon socket/hexagon socket screws
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Belt + Velcro

Socket assortment:

| | |
|--------------------|--------------------|
| • 1 x 2.0 × 28.0 | • 1 x 5.0 × 28.0HF |
| • 1 x 2.5 × 28.0 | • 1 x 6.0 × 28.0HF |
| • 1 x 3.0 × 28.0HF | • 1 x 7.0 × 28.0HF |
| • 1 x 4.0 × 28.0HF | • 1 x 8.0 × 28.0HF |

3/8" WERA ALLEN SET

3mm – 10mm

PN: 200711



- 8-piece socket set on Velcro strap, 3/8" drive.
- For both manual and machine use.
- Hexagon socket bit caps with retention function for hexagon socket/hexagon socket screws
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Belt + Velcro

Socket assortment:

| | |
|--------------------|---------------------|
| • 1 x 3.0 × 35.0HF | • 1 x 7.0 × 38.5HF |
| • 1 x 4.0 × 35.0HF | • 1 x 8.0 × 38.5HF |
| • 1 x 5.0 × 35.0HF | • 1 x 9.0 × 38.5HF |
| • 1 x 6.0 × 35.0HF | • 1 x 10.0 × 38.5HF |

1/2" WERA ALLEN SET

4mm – 10mm

PN: 200713



- 6-piece socket set on Velcro strap, 1/2" drive.
- For both manual and machine use.
- The cap is securely fastened by means of a smooth turning mechanism and can be loosened with a slight twisting movement.
- With "Take it easy" toolfinder: Color coding by size.
- Suitable for mounting on the wall, on your belt, on a workshop trolley or on the WERA2GO tool clamping system.

Scope of supply:

Pencil case + Velcro

Socket assortment:

| | |
|--------------------|---------------------|
| • 1 x 4.0 × 60.0HF | • 1 x 7.0 × 60.0HF |
| • 1 x 5.0 × 60.0HF | • 1 x 8.0 × 60.0HF |
| • 1 x 6.0 × 60.0HF | • 1 x 10.0 × 60.0HF |

OPEN END HEAD

SOFTWARE OPTIONS






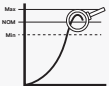
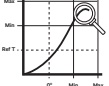
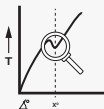
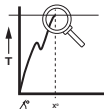




| Prod.No. | Open end head size | End fitting ISO shank size |
|----------|--------------------|----------------------------|
| 221300 | 6 mm | 9x12 |
| 221301 | 7 mm | 9x12 |
| 221302 | 8 mm | 9x12 |
| 221303 | 9 mm | 9x12 |
| 221304 | 10 mm | 9x12 |
| 221305 | 11 mm | 9x12 |
| 221306 | 12 mm | 9x12 |
| 221307 | 13 mm | 9x12 |
| 221308 | 14 mm | 9x12 |
| 221309 | 15 mm | 9x12 |
| 221310 | 16 mm | 9x12 |
| 221311 | 17 mm | 9x12 |
| 221312 | 18 mm | 9x12 |
| 221313 | 19 mm | 9x12 |
| 221314 | 20 mm | 9x12 |
| 221315 | 21 mm | 9x12 |
| 221316 | 22 mm | 9x12 |
| 221317 | 23 mm | 9x12 |
| 221318 | 24 mm | 9x12 |
| 221319 | 25 mm | 9x12 |
| 221320 | 26 mm | 9x12 |
| 221321 | 27 mm | 9x12 |
| 221322 | 28 mm | 9x12 |
| 221323 | 29 mm | 9x12 |
| 221324 | 30 mm | 9x12 |
| 221325 | 31 mm | 9x12 |
| 221326 | 32 mm | 9x12 |
| 221327 | 33 mm | 9x12 |
| 221328 | 34 mm | 9x12 |
| 221329 | 35 mm | 9x12 |
| 221330 | 36 mm | 9x12 |
| 221331 | 37 mm | 9x12 |
| 221332 | 38 mm | 9x12 |
| 221333 | 41 mm | 9x12 |
| 221334 | 45 mm | 9x12 |
| 221335 | 46 mm | 9x12 |
| 221336 | 49 mm | 9x12 |
| 221337 | 50 mm | 9x12 |
| 221338 | 52 mm | 9x12 |
| 221339 | 55 mm | 9x12 |
| 221340 | 60 mm | 9x12 |
| 221341 | 65 mm | 9x12 |
| 221342 | 67 mm | 9x12 |
| 221343 | 80 mm | 9x12 |

| Prod.No. | Open end head size | End fitting ISO shank size |
|----------|--------------------|----------------------------|
| 221400 | 8 mm | 14x18 |
| 221401 | 9 mm | 14x18 |
| 221402 | 10 mm | 14x18 |
| 221403 | 11 mm | 14x18 |
| 221404 | 12 mm | 14x18 |
| 221405 | 13 mm | 14x18 |
| 221406 | 14 mm | 14x18 |
| 221407 | 15 mm | 14x18 |
| 221408 | 16 mm | 14x18 |
| 221409 | 17 mm | 14x18 |
| 221410 | 18 mm | 14x18 |
| 221411 | 19 mm | 14x18 |
| 221412 | 20 mm | 14x18 |
| 221413 | 21 mm | 14x18 |
| 221414 | 22 mm | 14x18 |
| 221415 | 23 mm | 14x18 |
| 221416 | 24 mm | 14x18 |
| 221417 | 25 mm | 14x18 |
| 221418 | 26 mm | 14x18 |
| 221419 | 27 mm | 14x18 |
| 221420 | 28 mm | 14x18 |
| 221421 | 29 mm | 14x18 |
| 221422 | 30 mm | 14x18 |
| 221423 | 32 mm | 14x18 |
| 221424 | 33 mm | 14x18 |
| 221425 | 34 mm | 14x18 |
| 221426 | 35 mm | 14x18 |
| 221427 | 36 mm | 14x18 |
| 221428 | 37 mm | 14x18 |
| 221429 | 38 mm | 14x18 |
| 221430 | 39 mm | 14x18 |
| 221431 | 40 mm | 14x18 |
| 221432 | 41 mm | 14x18 |
| 221433 | 42 mm | 14x18 |
| 221434 | 43 mm | 14x18 |
| 221435 | 44 mm | 14x18 |
| 221436 | 45 mm | 14x18 |
| 221437 | 46 mm | 14x18 |
| 221438 | 48 mm | 14x18 |
| 221439 | 49 mm | 14x18 |
| 221440 | 50 mm | 14x18 |
| 221441 | 52 mm | 14x18 |
| 221442 | 55 mm | 14x18 |
| 221443 | 57 mm | 14x18 |
| 221444 | 60 mm | 14x18 |
| 221445 | 65 mm | 14x18 |
| 221446 | 70 mm | 14x18 |
| 221447 | 72 mm | 14x18 |
| 221448 | 75 mm | 14x18 |
| 221449 | 80 mm | 14x18 |
| 221450 | 90 mm | 14x18 |



FEATURE COMPARISON

Below an overview of the software features on TrackWrench® manual torque wrenches. All wrenches are CE certified, digital, and bi-directional.

| |  EcoTorq-Series 0.3 - 850 Nm |  BlueTorq-Series 1 - 2.000 Nm |  BreakTorq-Series 300 - 1.000 Nm |
|---|---|---|---|
|  Track Torque | ✓ | ✓ | ✓ |
|  Peak Torque | ✓ | ✓ | ✓ |
|  Preset Torque | ✓ | ✓ | ✓ |
|  Preset Torque + Angle | ✓ | ✓ | ✓ |
|  Just Move | ✗ | ✓ | ✗ |
|  Just Angle | ✗ | ✓ | ✗ |
|  PC FrontEnd | ✗ | ✓ | ✓ |
|  WheelTorque/ BatchCapture | ✗ | ✓ | ✓ |
|  MasterTorque/ CustomTorque | ✗ | ✓ | ✓ |
|  Uploader/ RS232 ParaWriter | ✓ | ✗ | ✗ |

ProTight™

MB-RAD and B-RAD-S with process control software

Radial Torque Tools B.V. is proud to announce its cooperation with ProSuite®, the software developing company for ProTight™ bolting process control.

As a result, the MB-RAD and B-RAD-S work with ProTight™, a combination that provides complete control over the bolt tightening process.

Instructs the user per bolt what the prescribed procedure is and what tightening torque and/or angular rotation is required. This ensures that each bolt is at the prescribed torque, that bolts are torqued in the correct sequence, and that no bolts can be 'missed'. In addition, every action is logged in the system so that everything can be found and checked afterwards.

Open protocol

The MB-RAD and B-RAD-S wrenches are able to connect with PRO-TIGHT™ by means of enabling the open protocol option in the tool menu.

With this option enabled, the MB-RAD and B-RAD-S can exchange data with the ProTight™ program. The ProTight™ software runs on a laptop or Windows equipped tablet (connects through Wi-Fi or LAN). After successful connection of the system, a bolting job can be configured by setting torque/angle pre-sets in the MB-RAD and B-RAD-S. In the ProTight™ program, it is possible to configure the bolting sequence as well with a barcode and to specify the operator. For "live" viewing and data logging, a connection to the customers' network can be configured. All actions are also stored in the customer's production management system so that it is always possible to check afterwards how the work has been carried out.

Error free operation

The ProTight™ system ensures that the operator will be precisely instructed how to use the MB-RAD and B-RAD-S so that all bolts are tightened according to procedure and each job can be logged live in the customers' ERP system for 100% traceability.

ProTight™ actively controls the MB-RAD and B-RAD-S based on the scanned barcode, and subsequently engages the correct torque preset in the MB-RAD and B-RAD-S. It then visually indicates the required actions and bolting sequence on screen and counts whether all bolts have been tightened. During the bolting process, the operator is visually and audibly updated on the status of the job in progress.

If bolts have been skipped or are tightened for a second time, ProTight™ detects this and forces the operator to take action. If an error alarm is ignored by the operator, the job will not be completed correctly and the printed sticker will indicate an incomplete job.

If later this sticker is scanned again, the system will indicate which bolt still has to be tightened before it will print the OK sticker. In this way the system is still flexible and all results are directly visible with the sticker on the final product. Without scanning a correct job, the MB-RAD and B-RAD-S remain disabled by the program so that mistakes are prevented.

The end result is that there is 100% certainty that the job has been done correctly, and with the clear visual instruction, a non-trained operator can learn the job very quickly.



ProTight™

The functional ProTight™ system consists of the following components:



- MB-RAD / B-RAD-S – all torque models, with the latest software update
- ProTight™ software
- Barcode scanner, label printer, USB Hub, Stack light and Bluetooth receiver (can be delivered in a case).

INDUSTRY4.0

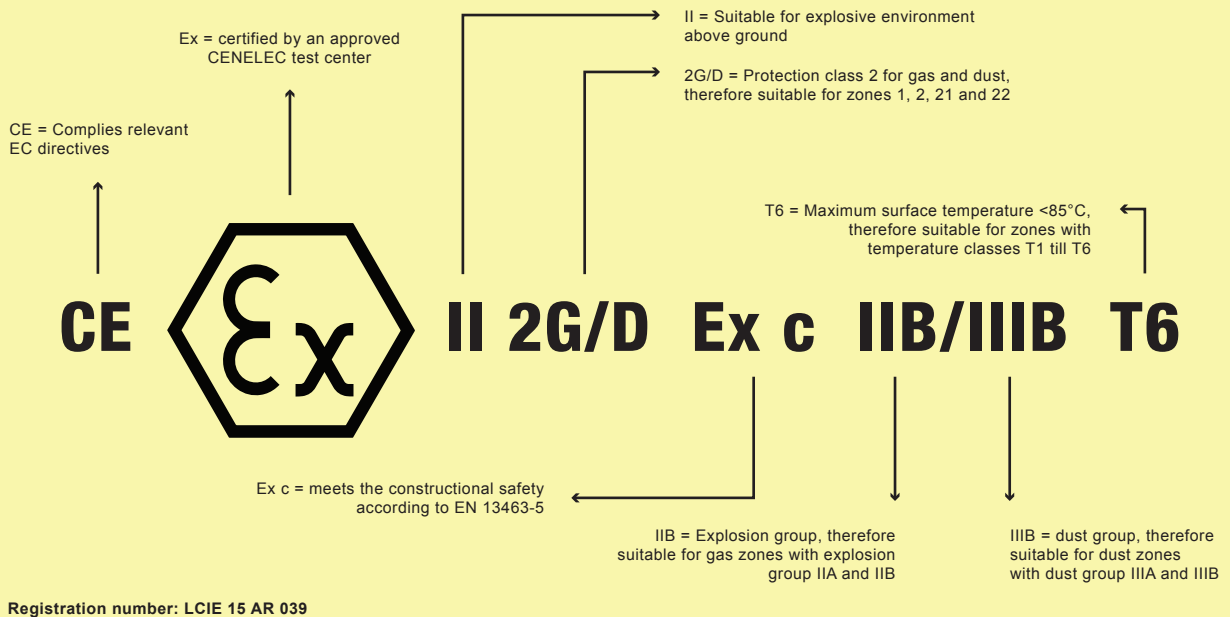
ATEX CERTIFICATION

In order to increase safety in explosion hazardous environments, Radial has developed an ATEX kit which can be optionally ordered or retrofitted on your existing RAD pneumatic toolkit.

RAD ATEX pneumatic torque wrenches have been independently tested and approved by Bureau Veritas. Their recommendations and RAD's subsequent tool modifications have resulted in the below classification, which means our tools can be officially used in ATEX zones 1, 2, 21 and 22.

The above classification makes the tool suitable for most applications in Oil & Gas and Petrochemical industries.

The Radial ATEX kit is completely grounded, has non static hoses and connectors and is tested according to protocol before delivery. Each set comes with a test certificate.





ATEX CERTIFICATION

TRAINING PROGRAMS

To optimize worker safety, productivity and bolting knowledge, Radial is ready to assist our customers and distributors with several custom-made training programs for using, maintaining or promoting Radial products.

Here below an overview of the training programs we offer. Please contact your sales representative for more details and scheduling.

| Training description | Duration | Group size | Cost p.p. | Location | Including |
|--------------------------------------|----------|--------------|------------|----------------------------------|--------------------------------------|
| Controlled bolting theory & practice | Full day | Min 2, max 5 | 250,- Euro | Radial Training Centre | Lunch, certificate, training booklet |
| Bolting Safety training | Half day | Min 2, max 5 | 150,- Euro | Onsite or Radial Training Centre | Certificate, training booklet |
| On site application training | Half day | Min 2, max 8 | 150,- Euro | Onsite only | Certificate, training booklet |
| Distributor sales training | Full day | Min 2, max 5 | 250,- Euro | Radial Training Centre | Lunch, certificate, training booklet |
| Distributor social media training | Half day | Min 1, max 4 | 250,- Euro | Onsite or Radial Training Centre | Certificate, training booklet |
| Tool repair training | Half day | Min 1, max 4 | 150,- Euro | Radial Training Centre | Certificate, training booklet |
| Tool repair training XL | Full day | Min 1, max 4 | 250,- Euro | Radial Training Centre | Certificate, training booklet, lunch |
| Tool calibration training | Half day | Min 1, max 4 | 200,- Euro | Radial Training Centre | Certificate, training booklet |

For onsite training requests, please note that travel and accommodation cost for the trainer will be charged. Prices as mentioned are per person, for distributors the usual discount code 1 applies.

Training hours Radial Training Centre

Half day : 09.00 till 12.30
 Full day training : 09.00 till 12.30 – 13.15 till 16.15
 Location : Soest, The Netherlands





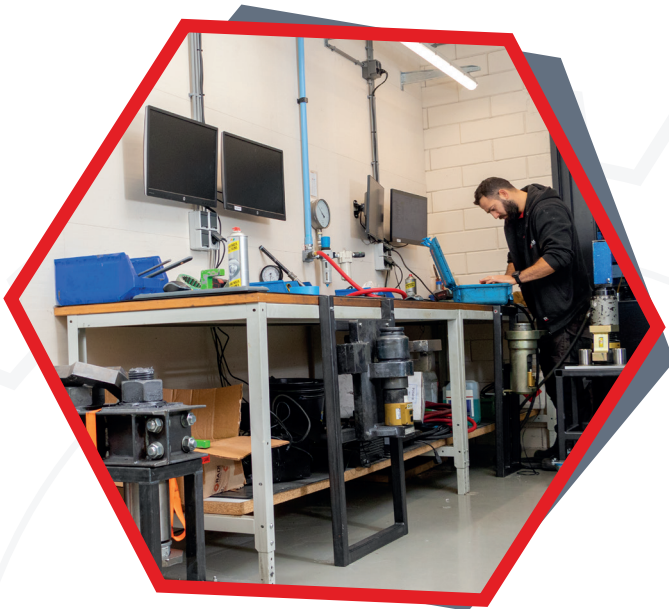
REPAIR & CALIBRATION SERVICE

Since 2011, we have been authorized by RAD Torque in Canada to service RAD tools. Over the years, our equipment and team have become even more professionalized. With the opening of our new facility in Soest in 2023, we now have a truly state-of-the-art repair and calibration center.

Authorized Repair & Calibration Department

Our services include factory-approved calibrations, gearbox overhauls, electronics repairs, and the processing of warranty cases on behalf of RAD. All RAD tools undergo repair by factory-trained technicians who use original RAD spare parts, and the repairs are accompanied by a 3-month warranty.

Equipped with specialized tools for gearbox opening and electronic testing equipment, our technicians facilitate efficient and professional repairs. Given our responsibility for distributing RAD tools and spare parts throughout Europe, Central Asia, and North Africa we maintain a substantial inventory of spare parts to ensure swift repair services.



Torque Multiplier Calibration up to 16.200 Nm

Our calibration services cover torque multipliers up to 16.200 Nm. All RAD calibrations adhere to factory standards and are performed on our dynamic calibration benches within our controlled climate calibration room. We utilize cutting-edge measurement technology to simulate real-world applications and conditions. In some cases, we employ the customer's own bolts to calibrate their wrench, ensuring the highest possible accuracy.

Torque Transducers

Every year, all of our torque transducers undergo calibration using 'Weight and Beam' systems at the ISO 17025 certified NWT calibration laboratory in Canada. Additionally, we crosscheck our transducers in-house on a weekly basis. Our capabilities extend to dynamic and static calibrations up to 16.200 Nm.

Please note that we do not provide calibration services for pressure gauges.





Manual Torque Wrenches ISO 6789

In our calibration room, we also perform calibrations on manual torque wrenches, adhering to ISO 6789 standards. Our certified calibration benches enable us to calibrate and verify various brands and types of manual wrenches, including clicker, dial, break, digital, and more.

Additionally, we offer repair services for all TrackWrench® models. If a wrench is deemed non-repairable, we can provide a replacement unit.

Certification for Electrical Equipment: NEN 3140

In accordance with the European NEN 3140 standard, all electrical tools which are used in professional settings must be annually checked for electrical safety. At Radial, we include a NEN 3140 inspection for all the tools we repair and calibrate.



OutSmart - Online Service Tracker

Embracing a paperless approach, our service department allows customers to submit repair or calibration requests seamlessly through the 'OutSmart' section on our website. Upon entering your repair job, you can easily track its status as it advances through our repair process. Each repair is digitally stored, complete with photos, and an automated repair estimate is automatically forwarded to the customer. Furthermore, each tool is stored with a comprehensive digital service history, encompassing certificates and relevant information.

TORQUE TOOL RENTAL

Our rental range consists of battery powered and electric torque wrenches from 50 – 15.000 Nm. In addition to the wrenches listed below, Radial has an extensive range of reaction arms, sockets and safety accessories.

If your company is located in the Benelux, please take a look at the rental form or e-mail your phone number and we call you back. If you want to rent a RAD torque wrench and you are not located in the Benelux, please contact your local RAD authorised resellers.

A large part of the Radial product portfolio is available for rent. See the opposite page for the products in the rental service.

Short and long term rental.

The tools are available for rental periods with a minimum of 2 days or for several weeks or even months. Contact our rental department at rental@radialtorque.eu for a quotation that fits your needs.

Rent to buy

In case you have rented one or more tools and wish to purchase a tool we have an agreement to use part of the paid rental fees for purchasing a new tool.

Reasons to rent

- No capital investment needed
- Repairs, maintenance and calibration are taken care of
- Torque tool need is only a couple of times per year
- To cover a higher or lower torque range than your existing tool range
- For an extended test to find the best tool for the job.



Battery

| Prod.No. | Model | Bolt sizes | Range | Price (€)* |
|----------|-------------------|------------|------------------|------------|
| 29594RD | B-RAD SELECT 275 | M10 - M20 | 50 - 275 Nm | 50,- |
| 28264RD | B-RAD SELECT 700 | M16 - M27 | 175 - 700 Nm | 65,- |
| 28266RD | B-RAD SELECT 1400 | M20 - M33 | 300 - 1.400 Nm | 90,- |
| 28268RD | B-RAD SELECT 2000 | M24 - M36 | 400 - 2.000 Nm | 105,- |
| 28270RD | B-RAD SELECT 4000 | M27 - M42 | 800 - 4.000 Nm | 130,- |
| 28272RD | B-RAD SELECT 7000 | M30 - M48 | 1.400 - 7.000 Nm | 150,- |
| 200919RD | MB-RAD 300 | M10 - M20 | 30 - 300 Nm | 75,- |
| 200921RD | MB-RAD 700 | M16 - M27 | 70 - 700 Nm | 90,- |
| 200922RD | MB-RAD 1400 | M20 - M33 | 140 - 1.400 Nm | 115,- |
| 200924RD | MB-RAD 2000 | M24 - M36 | 200 - 2.000 Nm | 130,- |
| 200926RD | MB-RAD 4000 | M27 - M42 | 400 - 4.000 Nm | 155,- |
| 200928RD | MB-RAD 7000 | M30 - M48 | 700 - 7.000 Nm | 175,- |

Includes storage case, reaction arm, 2 batteries with charger, manual and safety instructions.

Electric

| Prod.No. | Model | Bolt sizes | Range | Price (€)* |
|----------|----------------|------------|-------------------|------------|
| 200282RD | MV-RAD 34-90° | M24 - M36 | 340 - 3.400 Nm | 125,- |
| 200284RD | MV-RAD 45 | M27 - M42 | 450 - 4.500 Nm | 135,- |
| 200345RD | MV-RAD 70-90° | M30 - M48 | 1.400 - 7.000 Nm | 155,- |
| 200286RD | MV-RAD 80 | M36 - M56 | 800 - 8.000 Nm | 155,- |
| 21985RD | E-RAD BLU 950 | M16 - M27 | 135 - 950 Nm | 120,- |
| 21986RD | E-RAD BLU 3400 | M24 - M36 | 340 - 3.400 Nm | 150,- |
| 200415RD | E-RAD BLU 4000 | M24 - M39 | 675 - 4.500 Nm | 165,- |
| 21988RD | E-RAD BLU 8000 | M36 - M56 | 1.385 - 8.100 Nm | 190,- |
| 21989RD | E-RAD BLU 10K | M45 - M56 | 2.034 - 10.000 Nm | 205,- |
| 24224RD | E-RAD BLU 15K | M56 - M72 | 4.050 - 15.000 Nm | 235,- |

Including storage case, reaction arm, manual and safety instructions.



Pneumatic

| Prod.No. | Model | Bolt sizes | Range | Price (€)* |
|----------|-----------|------------|------------------|------------|
| 13549RD | RAD 14 GX | M20 - M33 | 275 - 1.350 Nm | 60,- |
| 19135RD | RAD 20 DX | M20 - M36 | 400 - 2.000 Nm | 65,- |
| 24717RD | RAD 40 DX | M27 - M42 | 1.200 - 4.000 Nm | 85,- |
| 15805RD | RAD 80 DX | M36 - M56 | 2.700 - 8.000 Nm | 110,- |

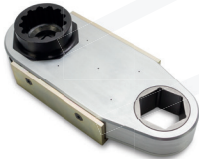
Includes storage case, FRL, reaction arm, manual and safety instructions.



Offset Gearboxes

| Prod.No. | Model | Price (€)* |
|----------|------------------------------|------------|
| 16550RD | HX Offset Gearbox - 80 mm AF | 120,- |
| 27486RD | CX Offset Gearbox - 46 mm AF | 100,- |
| 27978RD | CX Offset Gearbox - 50 mm AF | 100,- |
| 28540RD | CX Offset Gearbox - 65 mm AF | 135,- |

Including storage case, tool insert (max. 4.000 Nm gearbox) and reaction arm.



Impact sockets

| Prod.No. | Model | Drive size | Price (€)* |
|------------|-----------------|------------|------------|
| On request | 24 mm to 46 mm | 3/4" | 3,- |
| On request | 50 mm to 65 mm | 1" | 4,- |
| On request | 70 mm to 85 mm | 1,5" | 5,- |
| On request | 90 mm to 110 mm | 1,5" | 7,- |



Hexagon sockets

| Prod.No. | Model | Price (€)* |
|------------|----------------|------------|
| On request | 17 mm to 27 mm | 5,- |



Sliding reaction arm

| Prod.No. | Model | Price (€)* |
|----------|---|------------|
| 25243RD | For 700, 1000 and 1400 Nm RAD torque wrenches | 8,- |
| 25242RD | For 2.000 Nm RAD torque wrenches | 9,- |
| 25987RD | For 3.400 and 4.000 Nm RAD torque wrenches | 11,- |



Backup wrenches

| Prod.No. | Hex size | Price (€)* |
|----------|--------------|------------|
| 300790RD | 36 mm - 12PT | 12,- |
| 300791RD | 41 mm - 12PT | 12,- |
| 300792RD | 46 mm - 2PT | 12,- |
| 300793RD | 50 mm - 2PT | 12,- |
| 300794RD | 55 mm - 12PT | 15,- |
| 300795RD | 60 mm - 12PT | 15,- |
| 300796RD | 65 mm - 2PT | 15,- |
| 300797RD | 70 mm - 12PT | 15,- |
| 300798RD | 75 mm - 12PT | 15,- |
| 300799RD | 80 mm - 12PT | 15,- |

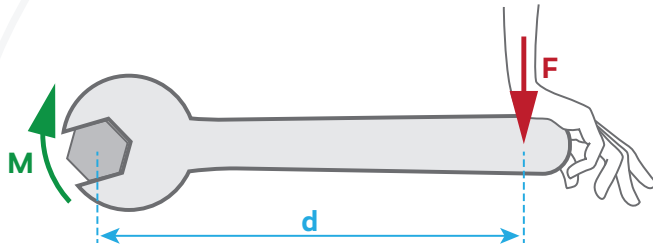
* Prices are per business day. Weekends are not calculated.



TORQUE PRINCIPLES

Torque

Torque is the measure of rotational force applied to an object that causes it to rotate around an axis. The unit of torque is Newton-meter (Nm) in the International System of Units (SI). In the imperial system, it is commonly measured in foot-pounds (ft-lb).



If you apply a force (F) of 10 kilograms at the end of a 1 meter long wrench (d), you create a torque (M) of 100 Nm.

Preload

Bolt preload is the amount of tension that is applied to a bolt. The purpose of bolt preload is to create a clamping force that holds the joint components together. It helps to prevent the bolts from loosening due to vibration or thermal changes, and to maintain the stability and integrity of the bolted joint connection.

Torque tightening

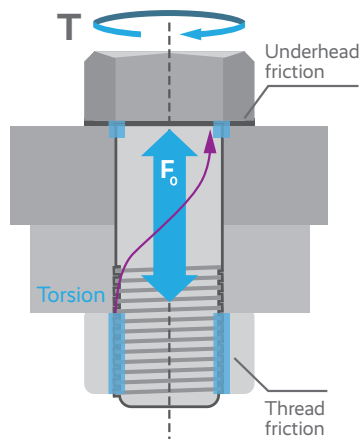
Torque tightening is the process of applying a specific torque (or rotational force) to a fastener such as a bolt or nut, in order to secure two or more parts together with a specific level of clamping force.

When the right amount of torque is applied, the bolt is stretched just so that it can act as a spring to hold separate steel parts together. Too little torque: parts aren't properly tightened, too much torque: can lead to bolt failure. Both making it structurally unsafe.

There are several factors that can affect the amount of torque needed to tighten a bolt:

- **Bolt size and material:** the size and material of the bolt will determine how much force is required to tighten it to the desired level. Larger bolts and nuts made of harder materials will typically require more torque.
- **Surface condition:** the condition of the surfaces that the bolt is being tightened against can also affect the amount of torque needed. Surfaces that are rough, dirty, or corroded will require more torque to tighten the bolt.
- **Lubrication:** the use of a lubricant, such as oil or grease, can reduce friction and lower the amount of torque needed to tighten a bolt at the desired clamp load.
- **Friction:** friction between the bolt and the threads, as well as between the bolt head and the material it is being tightened against, will affect the amount of torque required. Higher levels of friction will require more torque to tighten the bolt.

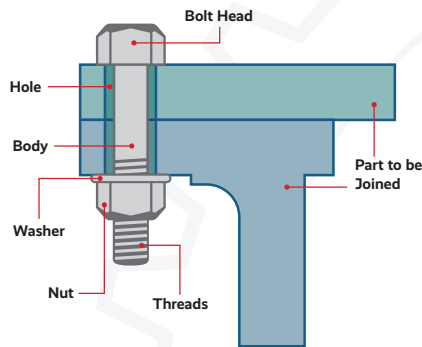
In general, it is important to use the proper torque specification for a given bolt to ensure that it is tightened to the correct level for safe and reliable performance.



Up to 50% of applied torque is needed to overcome underhead friction

+/- 40% of applied torque is needed to overcome thread friction

+/- 10% to 20% of torque is available to apply preload



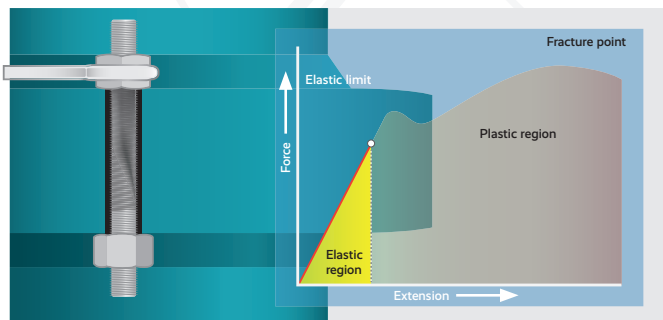
Bolted connections

Bolted connections refer to a type of mechanical fastening in which two or more parts are joined together by the use of bolts. In this method, the bolts are inserted through holes in the parts to be connected, and then secured in place by tightening nuts onto the threaded ends of the bolts. Bolted connections are used in a wide range of applications, including construction, engineering, and manufacturing, where a secure, reliable connection is needed.

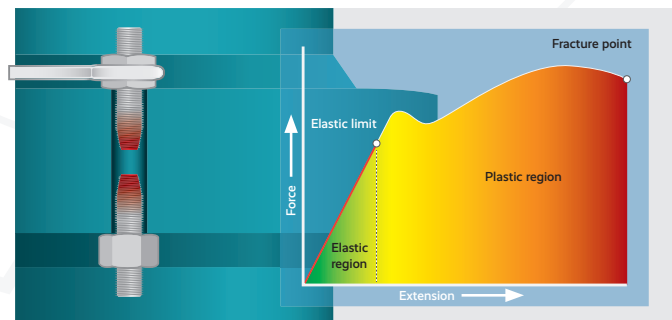
The goal of torquing bolts and nuts is to join two or more structural components in a steel structure and to generate preload, which creates the aforementioned clamping force so that separate parts of the construction remain clamped together.

Hooke's law

Simply put, Hooke's law states that the extension of a spring (or a bolt) is in direct proportion with the load added to it, as long as this load remains in the elastic region and does not exceed the elastic limit which causes the bolt to experience permanent deformation. If this extension is continued the bolt will finally reach its fracture point and break. A correctly tightened bolted joint can sustain millions of load cycles without problems.



Hooke's Law states that a bolt behaves elastically until it reaches its elastic limit.



Beyond this point it permanently deforms leading to bolt failure.

INDUSTRY 4.0

Since the late 1700s manufacturing has evolved through four industrial revolutions:

The First Industrial Revolution

The first industrial revolution occurred from around 1770 to about 1830. During this period, the focus of manufacturing evolved from manual labor by people and work animals to more optimized labor performed through the use of steam and water power.

The Second Industrial Revolution

Around the start of the 20th century, the world entered a second industrial revolution with the use of electricity in factories. During the second industrial revolution mass production solutions such as the assembly line were introduced.

The Third Industrial Revolution

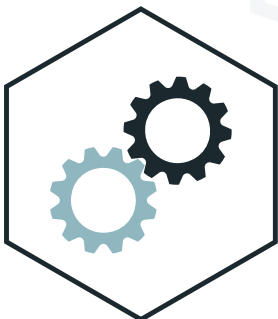
In the 1960s, the third industrial revolution emerged, with the rise of electronics, computers, robotics and more advanced telecommunications.

The Fourth Industrial Revolution, a.k.a. Industry 4.0

In the past few decades, a fourth industrial revolution has emerged, known as Industry 4.0. Industry 4.0 introduces interconnectivity through the Internet of Things (IoT), access to real-time data, machine learning and the introduction of cyber-physical systems.

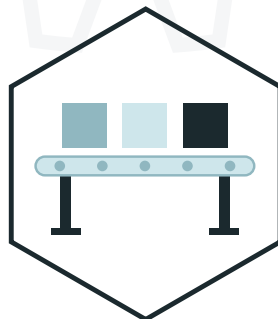
Industry 4.0 offers a more comprehensive, interlinked, and holistic approach to manufacturing. It connects the physical with the digital, and offers connectedness and access to real-time insight across processes, situations, products, and people.

The Four Industrial Revolutions



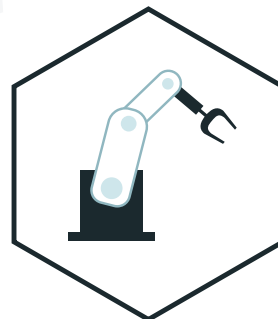
Industry 1.0

Mechanization and the introduction of steam and water power



Industry 2.0

Mass production assembly lines using electric power



Industry 3.0

automated production, computers, IT-systems and robotics



Industry 4.0

The Smart Factory. Autonomous systems, IoT, machine learning

Industry 4.0 optimizes the computerization of Industry 3.0

Computers were introduced in Industry 3.0 as an entirely new technology. Today, with the advance of Industry 4.0, computers are connected and communicate with each other. A combination of cyber-physical systems, artificial intelligence (AI), the Internet of Things and access to real-time data make Industry 4.0 a reality.

As a result of the support of smart machines that keep getting smarter as they get access to more data, production and maintenance become more efficient, while, to top it off, producing less waste than before. These things combined are the true power of Industry 4.0.

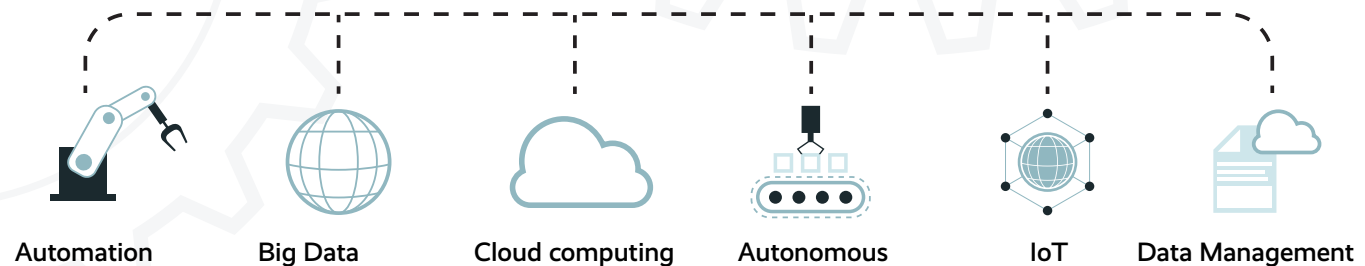
Industry 4.0 benefits

Industry 4.0 is the transformation of traditional industrial and manufacturing methods into automated and interconnected systems capable of continuous improvement and automation.

Industry 4.0 provides:

- Faster manufacturing
- Fewer quality issues: the use of sensors and real-time data analysis in Industry 4.0 systems allows for real-time monitoring and control of industrial processes, which can lead to improved quality and reduced defects.
- Lower overall operating costs
- Lower maintenance costs
- Lower waste production
- Real-time inspection possibilities
- Faster response to customer needs
- Increased knowledge sharing and collaborative working
- Better data management: the integration of IoT and data technologies in Industry 4.0 systems allows for the collection and analysis of vast amounts of data, which can lead to improved decision-making and enhanced performance.

Industry 4.0



4.0 Solutions Radial

Radial offers several products that are ready for Industry 4.0, with properties such as Wi-Fi connection, Bluetooth, data logging, and real-time monitoring.



WINDPOWER

Torque wrenches are essential in the wind energy industry. These torque wrenches can easily tighten bolts and nuts to the right torque and ensure an increase in efficiency and quality.

Our torque wrenches have been used in the wind industry for years to tighten bolts and nuts to the right torque and to prevent breakage. Accuracy, speed and ergonomics are experienced daily by our customers in the most diverse torque wrench applications within this industry.

Discover everything about our torque tools and wind energy solutions.



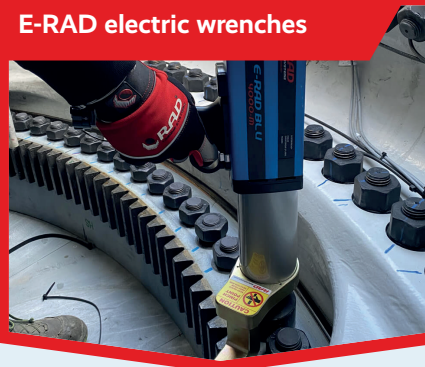
E-RAD electric wrenches



Flange connection

Whether it is hot or cold, you can always rely on our tools to accurately torque tower flange bolts. The specified tightening torque must be achieved, but not exceeded. We are happy to advise you which type offers you the most time savings compared to traditional methods.

E-RAD electric wrenches



Torquing bolts in slewing bearings

Want to tighten more than 100 bolts in the shortest possible time, including clear reporting in PDF format? E-RAD is the solution for a slewing ring bearing!

E-RAD electric wrenches



Hub assembly

The hub is the important link between the huge blades and the nacelle. The critical bolt connections in the hub can be secured with the E-RAD using the torque and angle method.

MINING

All over the world RAD torque wrenches are known as the go-to tools for bolting jobs on dump trucks, bulldozers, shovels and other vehicles used in the mining industry. RAD planetary gear torque wrenches are vibration free and have the accuracy to prevent accidentally under – and over tightening. The fixed nose extensions are ideal for reaching recessed wheel nut studs and where tool clearance is a problem.



Pneumatic torque wrenches



Wheel nut bolting

Accidents caused by incorrectly tightened wheel nuts are considered a serious problem in the industry. The RAD wheel nut bolting series were designed with one job in mind: wheel nut bolting where torque control is a must. The RAD fixed nose extension (-R) was developed exclusively for extreme duty maintenance of mining haul trucks from 50-400 ton capacities and front end loaders. The extended nose allows safe access of virtually all wheel configurations found on today's heavy equipment.

Pneumatic torque wrenches



Flywheel

RAD torque wrenches are perfectly suitable for all kinds of bolting jobs, such as loosening and quickly and accurately fastening of flywheel bolts.

Pneumatic torque wrenches



Tracks

Thanks to their robustness RAD torque wrenches are a popular solution for torquing jobs on tracks. Bolts can be easily loosened and accurately fastened without the vibration and noise of an impact wrench.

OIL & GAS AND PETROCHEMICAL

INDUSTRIES

In the oil & gas and petrochemical industries accurately torqued bolts are of high importance. It is crucial that the bolted connections are tightened to an accurate torque and that this work can be carried out quickly, efficiently and safely.

Radial supplies various RAD torque wrenches and valve actuators for use in the oil & gas industry and petrochemical industry.

The torque wrenches from RAD are very suitable for torquing bolts on, for example, flanges.

Both the battery-powered and pneumatic versions are widely used around the world for these types of applications.

Bolted flange joints

RAD torque wrenches are used all over the world to torque flange bolts. RAD tools don't produce vibrations, and without the need of heavy hydraulic pumps it's easy to see why these tools are so popular.

Gas turbine

RAD has been a major player in the oil & gas industry for almost 30 years. RAD battery torque wrenches deliver up to 15.000 Nm and RAD pneumatic torque wrenches up to 15.000 Nm. The pneumatic series are also available in ATEX version.

B-RAD battery wrenches



Opening and closing handwheels

With a B-RAD 275 battery-powered torque wrench equipped with a reaction arm and revolution counter, handwheels can be quickly opened and closed without any physical effort, and set with the correct force at the proper torque.

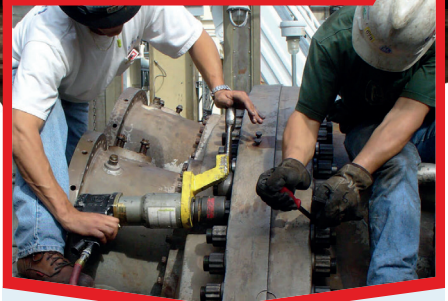
Pneumatic torque wrenches



Bolted flange joints

With the best torque wrenches, such as those from RAD, bolted connections in flanges can be quickly and accurately torqued and loosened. The flange fitter can achieve the tightening torque of a bolt or nut without noise, vibration and without having to use slow hydraulic equipment with accompanying heavy pumps.

Pneumatic torque wrenches



Gas turbine

RAD is a major provider in the oil and gas sector, with over 30 years of experience. Our products, such as the battery torque wrenches with a capacity of up to 15.000 Nm, and the pneumatic torque wrenches with a capacity of up to 15.000 Nm, are of high quality. The pneumatic RAD wrenches are also available in ATEX version.

OFFSHORE

In offshore applications high downtime costs are a major factor. For this reason fast, safe and accurate bolting is of major importance in this industry. Radial offers a wide range of RAD torque wrenches for the offshore industrie. These tools bring a great cost reduction because of the huge time savings that result from using them.

TP sea fastening and installation of offshore wind turbines

RAD torque wrenches are widely used for bolting jobs for transport and assembly of offshore wind turbines. RAD tools are robust, fast, and accurate and can be used in all weather conditions.

Cable carousel

The construction of cable carousels requires accurate torquing of hundreds of heavy bolts. RAD torque wrenches are mobile, fast and accurate and can be used in all weather conditions. These are some examples why RAD tools are used worldwide for this application.

Bolting at height

RAD battery torque wrenches can be equipped with drop prevention lanyards and enable the operator to work at height safely and effortlessly, without the hassle of hoses, cords or heavy pumps.

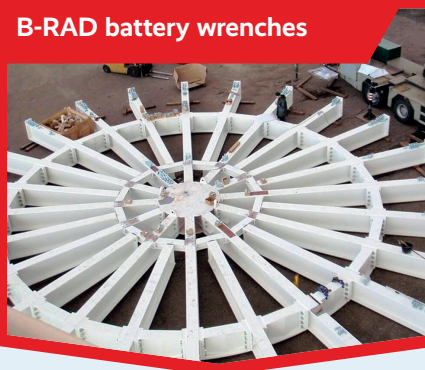
E-RAD electric wrenches



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STEEL CONSTRUCTION

Nowadays, in steel construction, a choice is made between welded connections or bolted connections. When we talk about bolted connections in steel construction, we are talking about large quantities of bolts that have to be tightened at a certain torque. This is done with torque wrenches.

Due to the ease of use, speed, accuracy, light weight, low noise production and compact dimensions, RAD torque wrenches are particularly suitable for steel construction.

For example, the MV-RAD and the E-RAD are often used to torque thousands of heavy bolts. The battery series B-RAD offers the advantage of quick and easy use without cords, pumps or hoses. Yet hundreds of bolts can be torqued per battery charge!

E-RAD electric wrenches



Torquing 45.000 bolts on a large vertical-lift bridge

When building in steel construction, the bolt connections must be fastened accurately. This was also the case with the new Botlek bridge on the A15, the heaviest and highest lifting bridge in Europe. 45.000 bolts were quickly tightened with RAD electric and battery torque wrenches.

B-RAD battery wrenches



Working at height with RAD battery torque wrenches: no cables or hoses required

The B-RAD series torque wrenches offer torques up to 15.000 Nm. If desired, they can be equipped with safety-enhancing accessories. Think of fall protection equipment. These types of accessories are indispensable when working safely at height.

B-RAD battery wrenches



Automatic 2-speed versions (optional)

The battery torque wrenches from the B-RAD series can also be supplied in an automatic 2-speed version. The wrench then rotates at high speed until higher torque is required and then automatically switches to the high torque position, and vice versa, to loosen the bolted connections of the steel structure.

CIVIL ENGINEERING

In industries such as bridge construction and railway construction, bolted connections that have to be accurately torqued are very common. Preferably, of course, with equipment that is as mobile as possible. And preferably without cables, hoses, noise or vibrations. Radial supplies RAD torque wrenches that meet all these requirements.

B-RAD battery wrenches



Building temporary modular bridges quickly and safely

The battery-operated B-RAD series is the ideal tool for quickly constructing a temporary modular bridge while amply meeting all requirements in terms of safety and accuracy.

B-RAD battery wrenches



Railway construction and maintenance

The B-RAD EXT-R (an extended version of the B-RAD cordless torque wrench) makes it very easy to tighten bolts at ground level while standing. Without vibrations and exhaust gases and with a very low noise production (only 65 dB), this tool enables you to continue working at night. Thanks to the extended version, bolted connections can also be mounted or dismantled at 'ceiling height'.

B-RAD battery wrenches



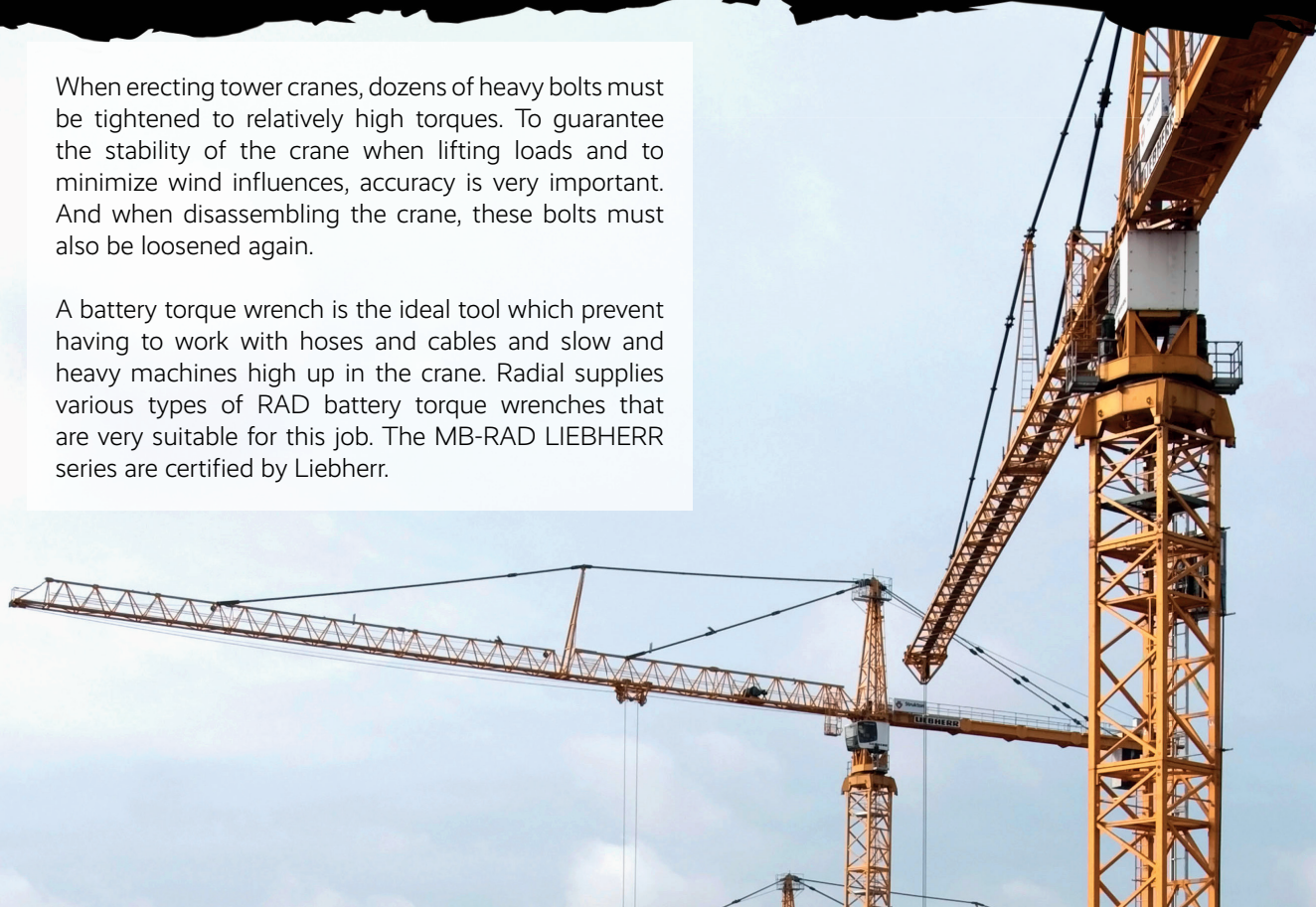
Emergency repair highway bridge

The B-RAD battery torque wrench is ideal for carrying out maintenance on bridges quickly and safely. For example, several dozen B-RAD battery torque wrenches were used for the emergency repair of a large highway bridge on one of the main highways in the Netherlands. The ease of use and the speed of the B-RAD resulted in the fact that the job was completed no less than 2 weeks earlier than estimated. As a result, heavy freight traffic on the bridge was quickly resumed and the temporary restrictions on transport could be lifted earlier than expected.

TOWER CRANES

When erecting tower cranes, dozens of heavy bolts must be tightened to relatively high torques. To guarantee the stability of the crane when lifting loads and to minimize wind influences, accuracy is very important. And when disassembling the crane, these bolts must also be loosened again.

A battery torque wrench is the ideal tool which prevent having to work with hoses and cables and slow and heavy machines high up in the crane. Radial supplies various types of RAD battery torque wrenches that are very suitable for this job. The MB-RAD LIEBHERR series are certified by Liebherr.



B-RAD battery wrenches



Assembly of tower cranes

During the erection of tower cranes, dozens of bolted connections have to be torqued accurately. RAD cordless torque wrenches are the ideal tools for this: up to 15.000 Nm, without clumsy cables or hoses, and without having to use heavy pumps.

B-RAD battery wrenches



RAD torque wrenches: also suitable for disassembly!

RAD torque wrenches are known worldwide for their great strength, speed and accuracy. They are also known for their robustness. Thanks to their robust construction, RAD torque wrenches are also suitable for loosening tightened bolts!

B-RAD battery wrenches



Also ideal for other bolting jobs

RAD battery torque wrenches are also suitable for other bolted connections that are found in cranes. On top of that, thanks to the robustness of RAD products, these torque wrenches are also suitable for loosening very stuck bolts.

MARINE DIESEL, BUILDING, REPAIR AND OVERHAUL

When building, repairing or overhauling marine diesel engines, bolts have to be torqued with high accuracy. Radial offers various RAD electric and battery powered torque wrenches that have been very popular in this industry for years.

Both the very easy to use cordless B-RAD series (torque range from 35 Nm to 7.000 Nm) and the 230V series MV-RAD (65 Nm to 11.000 Nm) and E-RAD (135 Nm to 16.500 Nm) are used in this industry by many satisfied users.

B-RAD battery wrenches



Cylinder head bolts, torque and angle

The MB-RAD cordless torque wrench is the ideal tool for loosening and tightening head bolts. Countless diesel overhaul companies have been working with this tool for years with great satisfaction as it can do torque + angle tightening.

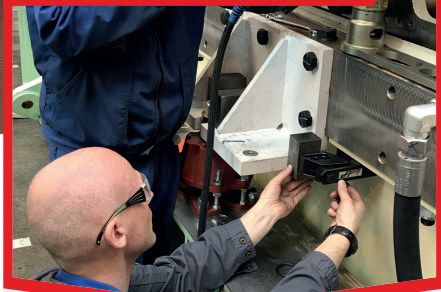
B-RAD battery wrenches



Diesel Overhaul, accurate tightening torques of great importance

Effortlessly loosening and fastening bolts in marine diesel engines becomes an easy job thanks to B-RAD battery torque wrenches. Accurate torque (and angle) can be applied with 1 finger on the trigger, just as easily as previously tightened bolts can be loosened.

E-RAD electric wrenches



RAD torque wrenches, the worldwide choice for marine diesel engine building

RAD torque wrenches, the worldwide choice for marine diesel engine building RAD torque wrenches are used internationally for the construction of new marine diesel engines. A range of solutions is on offer: electric torque wrenches with a straight or a 90 degrees multiplier gearbox, transducer controlled tools, simple or advanced battery operated torque wrenches, tools operating at low torques or tools operating at more than 10.000 Nm, you name it.

Notes

Notes



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Your local RAD distributor: