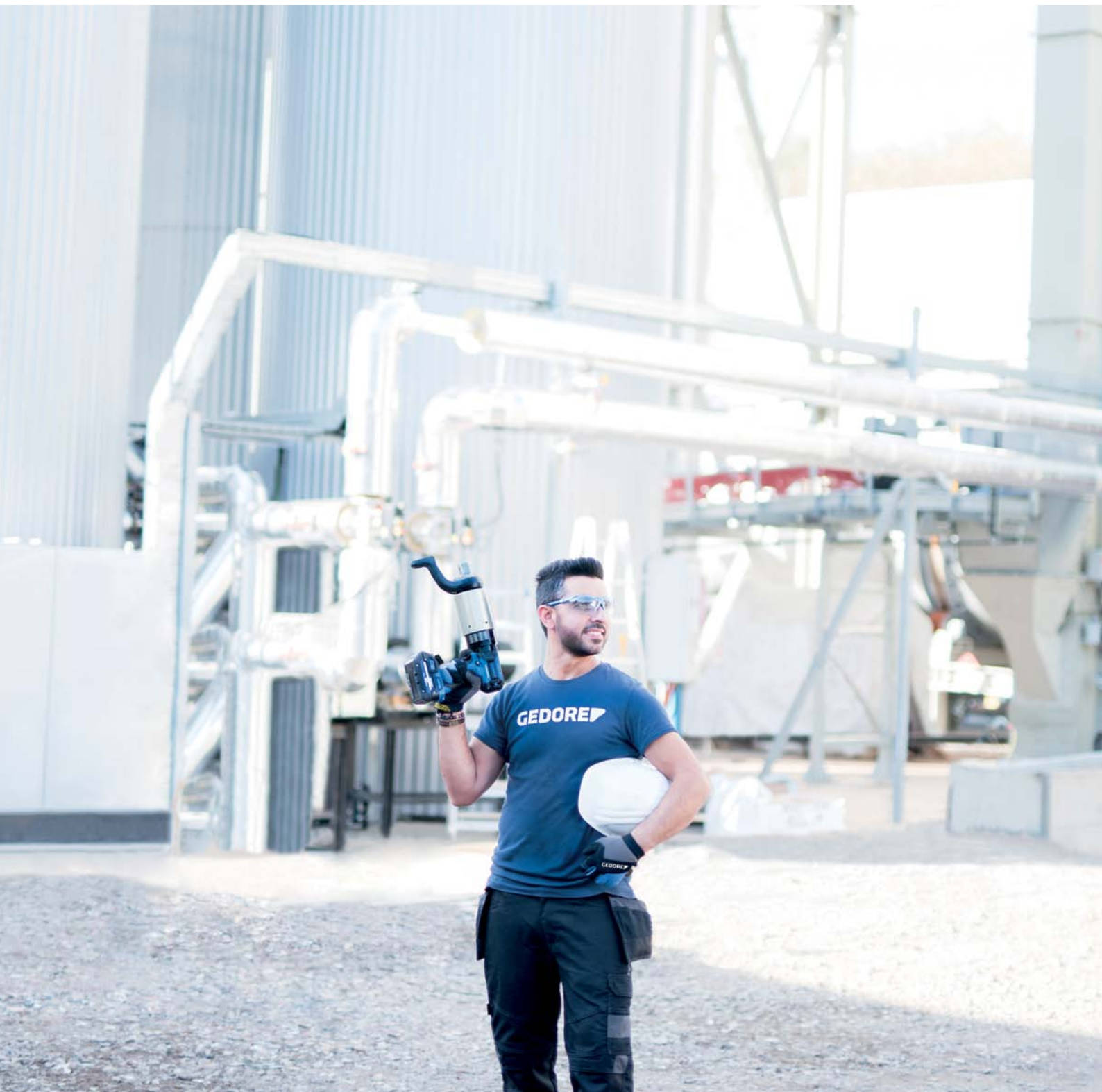


GEDORE TORQUE SOLUTIONS



HIGH-LEVEL CORDLESS TORQUE WRENCH WITH COLOUR DISPLAY

LDA SOLUTION up to 13000 Nm



Dear customers, business partners,
and tool users,

GEDORE Torque Solutions presents the new generation of its powerful LDA high-level cordless torque wrench up to 6000 Nm. The compact and lightweight devices with low maintenance brushless technology makes bolting tasks even easier and more efficient.

Our products remain innovative, demanding and benefit from 45 years of concentrated expertise in toolmaking and high level torque bolting technology.

Discover the innovation LDA Solution with a torque range up to 13 000 Nm, a sunlight-readable colour display and the possibility of complete data logging of your bolted connections with the industry standard VDI/VDE 2862 according to the highest quality standards.












Our cordless Railway Torque Wrench LDB-10, awarded with the Competence Prize for Innovation and Quality Baden-Württemberg 2015, will continue to be a battery-driven lightweight (only 17.2 kg) suitable for one-man operations replacing the classic bolting machine, impact wrench and sleeper drill. In 2017 the LDB-10 was released as one of the first tools from the 1 % and 5 % prescribed check (valid for Deutsche Bahn).

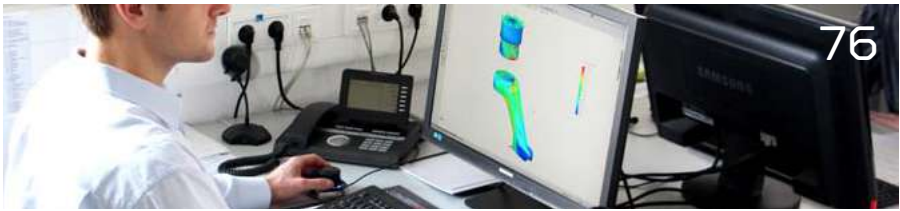
The latest generation of high-speed bolting also comes from GEDORE Torque Solutions GmbH. Our LHD with detachable magnetic display and adjustable handles combines power and speed: for a faster insertion bolt by bolt. With powerful 7 500 Nm it defies wind and weather.

You can find out more about these products on the following pages.

We hope you enjoy browsing through the new catalogue.

YOUR GEDORE TORQUE SOLUTIONS GMBH TEAM OF EXPERTS

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OUR NEW INNOVATIONS



LDA/LAW Solution up to 13000 Nm with colour display and data logging

Our latest innovation – the LDA Solution with sunlight-capable color display, low-maintenance brushless technology and a documentation function for controlled and safe working in all situations.

- › Torque range 150–13 000 Nm
- › Brushless Technology – low-maintenance
- › Digital, sunlight-readable colour display with intuitive system guidance
- › The independent fan cools the motor even during downtime
- › Complete system designed and manufactured in Germany
- › Module TRACK: Documentation of more than 10 000 bolting connections
- › Module QS: Documentation and pre-definitions of bolting systems
- › USB interface for data transmission
- › Repeatability tolerance less than +/- 3 %
- › Defined tightening with torque angle mode
- › Complies with VDI/VDE guidelines 2862
- › Live torque measurement on request and subject to availability

Further information on pages 14-17.

For a detailed, individual presentation of our torque wrench LDA Solution please contact us.



See for yourself
– take a look at our new
LDA Solution-Video!

New generation of the LDA/LAW series ergonomic, powerful and lightweight

With low-maintenance brushless technology and new ergonomic design we present the LDA high-level cordless torque wrench up to 6 000 Nm in a new generation. Intelligent, flexible and smaller than its predecessor whilst lighter and more powerful. The desired torque range can be adjusted in steps. Powerful drive is provided by the efficient and fast brushless motor with 2-speed gearbox and powerful 270 Wh system power.

- › Torque range from 90-6 000 Nm
- › Brushless Technology – low maintenance
- › Stepped torque adjustment
- › Ergonomic handle for safe & non-fatiguing use
- › System power of 270 Wh with three powerful lithium-ion batteries (90 Wh/18 V/5 Ah)
- › Repeatability tolerance less than +/- 3 %
- › Also available in angled versions

Further information on pages 10–13.

For a detailed, individual presentation of our torque wrench LDA please contact us.



See for yourself
– take a look at our new
LDA-Video!



The heavy duty torque wrench with magnetic colour display and adjustable handles

Our LHD with detachable magnetic display and adjustable handles combines power and speed: for a faster insertion bolt by bolt. More than twice as fast than other suppliers when docking - for a faster reset from bolt to bolt. The Brushless Technology ensures a longer service life of the torque wrench. Due to strong voltage fluctuations it is often impossible in the wind power sector to use electrically driven bolting equipment with the required accuracy. This is avoided with the LHD bolting device by a voltage conversion using our Powerbox - this way the bolting device is always provided with the necessary voltage for correct performance. With detachable, magnetic display and adjustable handles, the LHD scores in terms of flexibility and accuracy.

- › Torque range: 800–7 500 Nm
- › Process-safe working in wind and weather
- › Documentation of more than 10 000 bolt-connections (module TRACK) – optional
- › Documentation and pre-defining of different bolting operations (module QS) – optional
- › Torque
- › Torque angle – optional
- › Inductive interface for data transmission
- › Torque adjustment in 10 Nm steps
- › Removable, magnetic display with cable length of 2m
- › Adjustable handles for easier work and optimal power distribution in every situation
- › Optical and an acoustic zero-error strategy
- › Repeatability tolerance less than +/- 2 %

Further information on pages 72–73.

For a detailed, individual presentation of our Heavy Duty torque wrench LHD please contact us.

Exemption from the prescribed check for railway torque wrench LDB-10 (valid for Deutsche Bahn)

Basically, new bolted connections on rail tracks should be documented and randomly tested. As one of the first maintenance tools, the LDB-10 Universal railway torque wrench has now been relieved of the 1 % and 5 % prescribed check. Thus saving considerable amounts of resource and costs to the end user.

Calculation example:

1 km rail = 6.666 bolts
+Verify: 66 or 336 bolts (with 1 % or 5 % prescribed check)

Effort and costs of the prescribed check

2 persons each 1 minute per bolt x 60 €/h = 2 €/bolt

+ 1 km rail = 132,00 € verification costs (with 1 % prescribed check)
+ 1 km rail = 672,00 € verification costs (with 5 % prescribed check)

The LDB-10 amortizes itself after 19 km of rail (with 5 % prescribed check) or 96 km (with 1 % prescribed check)

Further information on pages 70–71.

For a detailed, individual presentation of our railway torque wrench LDB please contact us.



See for yourself
– take a look at our
LDB-Video!



LDA, LAW, LDA/LAW SOLUTION CORDLESS TORQUE WRENCH

LDA



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › 3 BATTERIES
- › CHARGER
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



LAW



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › 3 BATTERIES
- › CHARGER
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



LDA/LAW SOLUTION



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › MODULES TRACK AND Q5
- › 2 BATTERIES
- › CHARGER
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



CORDLESS TORQUE WRENCH IN NEW GENERATION

LDA/LAW SERIES, 90-6000 Nm



The new cordless torque wrench up to 6000 Nm

Even more powerful, intelligent and flexible - and at the same time much smaller and lighter than its predecessor: The new generation of LDA cordless torque wrench with ergonomic grip and low-maintenance brushless technology. With our further developed and proven high level cordless torque wrench, bolting operations can be carried out independently and safely.

It generates torques of up to 6000 Nm with specially manufactured planetary gearboxes. The powerful lithium-ion battery mean that applications at high altitude or in confined spaces are easy overcome. Once the battery is fully discharged, you can switch to electrical operation thanks to the optionally available hybrid cube.



Our secret: Intelligent microprocessor electronics

The heart of the cordless torque wrench is the switch-off electronics with microprocessor control. This allows the tightening torque for each bolting operation to be precisely maintained and ensures stable torque accuracy over the entire discharging cycle of the battery.

Integrated gear protection and processor-controlled safety

The microprocessor prevents gear damage when loosening hard bolted connections. The low-backlash gear with a housing made of high-performance aluminium was specially developed further for this series. An active release function ensures that the wrench automatically releases after work is complete and can thus be easily removed from the bolt.

An unbeatable combination

Battery technology and microprocessor electronics complement each other perfectly. Our microprocessor electronics increases and regulates the battery voltage. Thus, the battery life is extended and the torque kept constant during the operating- cycle. The scope of delivery of the cordless torque wrench includes a system performance of 270 Wh, consisting of three lithium-ion batteries (90 Wh/18 V/5 Ah).

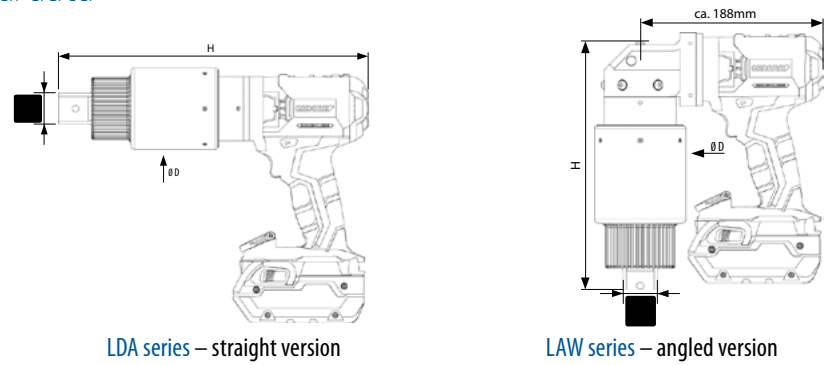
With the latest Brushless Technology, the LDA becomes even more efficient. The brushless motor replaces the brushed universal motor and thus requires less maintenance.



Lies comfortably in the hand

The ergonomic grip is non-slip and fatigue-free in the hand and ensures safe working. The braked 360°-rotating drive unit prevents any injuries to the operator when used in confined spaces.



Technical data



| Type | N-m min ^{*1} /max ^{*2} | lbf-ft min ^{*1} /max ^{*2} | ~ U/min |  | Ø D mm | H mm |  ^{*3} |
|---------|---------------------------------------------|------------------------------------------------|---------|-----------------------------------------------------------------------------------|-----------|---------|---------------------------------------------------------------------------------------------------|
| LDA-05 | 90 - 500 | 60 - 370 | 46 | 3/4" | 80 | 255 | 3.3 |
| LDA-07 | 120 - 700 | 80 - 520 | 29 | 3/4" | 80 | 287 | 3.9 |
| LDA-12 | 200 - 1200 | 150 - 890 | 20 | 3/4" | 80 | 287 | 3.9 |
| LDA-15 | 250 - 1500 | 180 - 1110 | 15 | 1" | 88 | 303 | 5.0 |
| LDA-22 | 300 - 2200 | 220 - 1630 | 10 | 1" | 90 | 321 | 5.6 |
| LDA-32 | 400 - 3200 | 290 - 2360 | 7 | 1" | 88 | 344 | 6.1 |
| LDA-40 | 500 - 4000 | 370 - 2950 | 5,5 | 1" | 88 | 344 | 6.1 |
| LDA- 60 | 700 - 6000 | 510 - 4430 | 3,5 | 1 1/2" | 102 | 359 | 7.8 |
| LAW-12 | 200 - 1200 | 150 - 890 | 20 | 3/4" | 80 | 223 | 5.2 |
| LAW-22 | 300 - 2200 | 220 - 1630 | 10 | 1" | 90 | 255 | 6.9 |
| LAW-32 | 450 - 3200 | 340 - 2360 | 7 | 1" | 88 | 279 | 7.3 |
| LAW-40 | 500 - 4000 | 370 - 2950 | 5,5 | 1" | 88 | 279 | 7.3 |
| LAW-60 | 700 - 6000 | 510 - 4425 | 3,5 | 1 1/2" | 102 | 295 | 9.1 |

^{*1}Lowest torque in 2nd gear ^{*2} Maximum torque in 1st gear ^{*3}Without reaction arm with battery Battery: 740g
Vibration is less than 2.5 m/s² The continuous sound pressure as per DIN 455635 is < 80 dB(A)
Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

Scope of delivery

- › Device
- › Reaction arm cranked with lock on function made of chrome vanadium steel
- › 3x Lithium-ion battery (90 Wh/18 V/5 Ah)
- › Charger 220-240 V; 50/60 Hz or 110-120 V; 50/60 Hz for USA
- › Tool box
- › Operating manual
- › Factory calibration certificate

Optional accessories

- › Reaction arm made of light alloy, straight with adjustable locking knob with movable square-end and retaining ring
- › Reaction ring for bespoke reaction arm design
- › Hybrid Cube
- › Car charger for 12 V connection



OUR TORQUE WRENCH IN DIFFERENT BOLTING SITUATIONS



Source: MERK Timber GmbH



Metropol Parasol, Sevilla

The new landmark in Seville, Spain, was mounted with the high-torque cordless torque wrench (LDA). A total of 21900 bolted connections were tightened on the wooden construction.

Rhenish lignite mining area

In the Rhenish lignite mining area, complex piping systems run through the openpit mining, which serve for drainage and pollution control. In some areas, steel flanged pipes are being dismantled, which have been used for over 10 years of drainage and installed in the ground. Due to the years of weathering and the resulting corrosion of the bolt connections, disassembly work is often a challenge for these tubes. To solve these bolted connections and to install new lines our LDA is used.



Source: RWE POWER, TAGEBAU HAMBACH



Football stadium TSG Hoffenheim

The roof structure of the football stadium belonging to TSG 1899 Hoffenheim was mounted with our cordless torque wrench.

CORDLESS TORQUE WRENCH WITH COLOUR DISPLAY

LDA/LAW SOLUTION SERIES, 150-13000 Nm



New LDA Solution with data collection function

The new high-level cordless torque wrench LDA Solution, an in-house development from our company, is equipped with a documentation module for quality assurance and a sunlight-readable, intuitively operable colour display. Pre-defining of bolting-options is also possible. With its powerful 144 Wh lithium-ion battery, microprocessor

electronics and Brushless Technology, the LDA Solution achieves an unprecedented torque up to 13 000 Nm - all in a single gear. With the torque rotation angle controlled tightening process a perfectly defined screw connection is guaranteed to the highest quality standards.

Conform to the highest standards

The data transmission of all bolted connections processes via USB interface at the end of the working day is done flawlessly and seamlessly with the LDA Solution. The LDA Solution is therefore absolutely Industry 4.0-compatible and meets the requirements of VDI / VDE 2862. If you would like to know more about the function of live torque measurement, please contact us – we will be glad to advise you.

Includes bolting software TRACK and QS

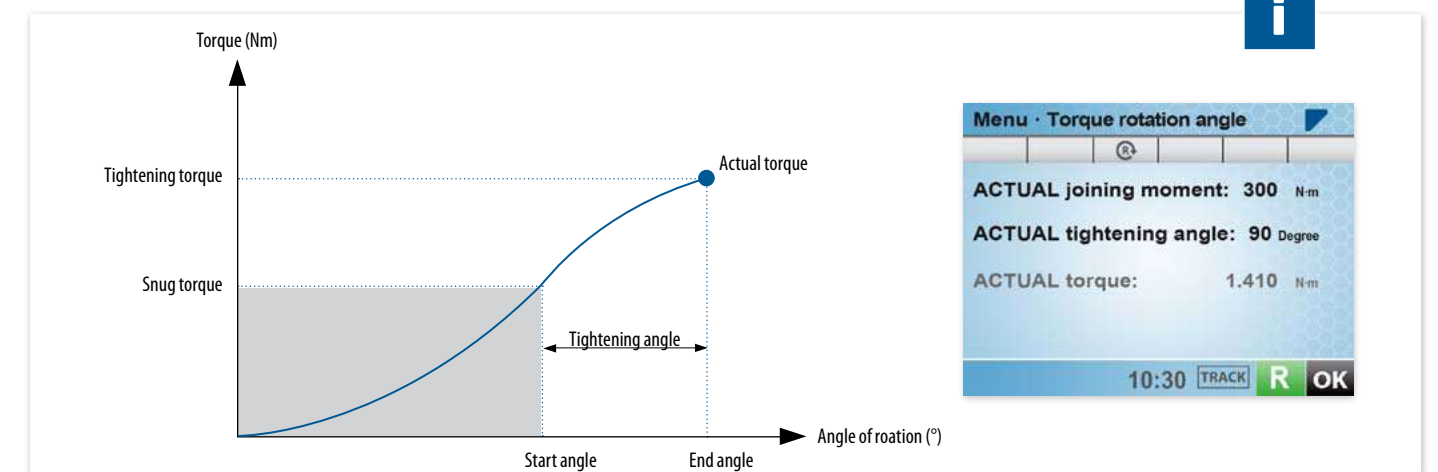
The integrated documentation module TRACK or QS makes the documentation of more than 10 000 bolted connections possible and serves for the quality-assured archiving of your completed work.

>> More information about documentation modules
see pages 54/55

Defined bolting with the torque rotation angle controlled tightening process

For a more precise tightening of the bolts, the LDA Solution offers the torque rotation angle mode. After reaching torque, the bolt is retensioned by the previously defined further angle of rotation, thus guaranteeing a perfectly

defined bolted connection according to the highest quality standards, which complies with established standards.



Proven system workflow with digital colour display

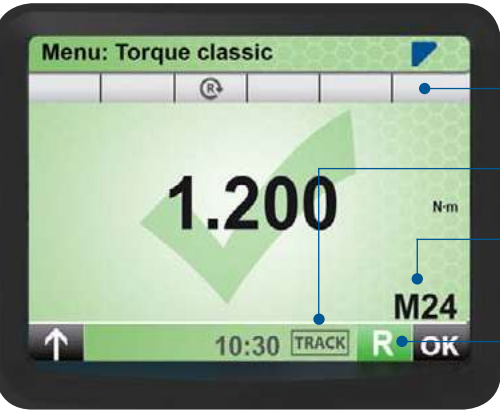
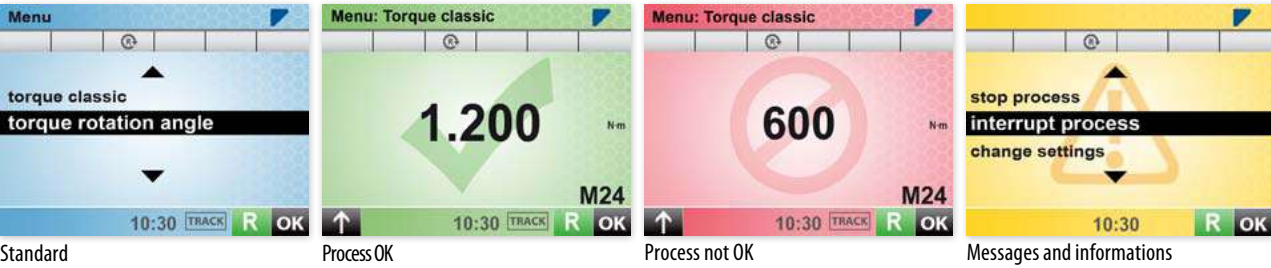
For maximum precision, the LDA Solution offers a visual and acoustic zero-defect strategy: a sunlight-capable, digital colour display visualizes the entire workflow; in addition, an acoustic signal sounds as soon as the set value is reached.

Lies comfortably in the hand

The ergonomic grip is non-slip and fatigue-free in the hand and ensures safe working. The braked 360°-rotating drive unit prevents any injuries to the operator when used in confined spaces.



The display and its functions

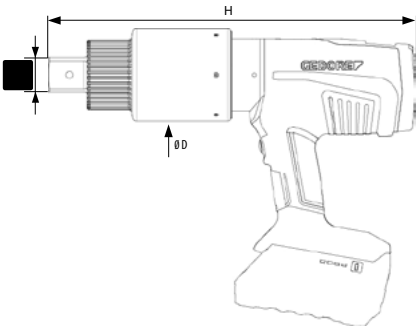


- + Toolbar shows the status of the device (USB connection, thread direction, temperature)
- + Activated module (TRACK or QS)
- + Typical bolt for adjusted torque
- + Direction of rotation
- + 2" high-resolution LCD colour display with impact-resistant macrolon screen

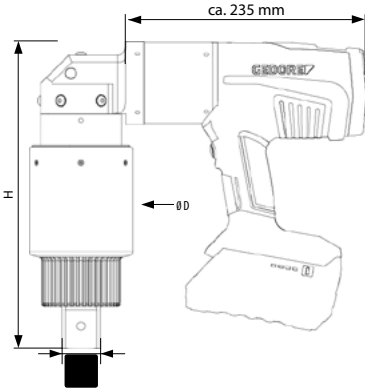
- + Setting wheel for easy selection of bolt-cases and torque values
- + OK-button
- + USB interface for data transmission
- + Back-button



Technical data



LDA Solution series – straight version



LAW Solution series – angled version

| Type | N-m min/ max | lbf-ft min/ max | ~ U/min | ■ | Ø D mm | H mm | kg* |
|------------------|-----------------|--------------------|---------|-----|--------|------|------|
| LDA-12 Solution | 150 - 1200 | 110 - 890 | 16 | ¾" | 80 | 334 | 5.2 |
| LDA-15 Solution | 200 - 1500 | 150 - 1110 | 10 | 1" | 88 | 349 | 6.3 |
| LDA-22 Solution | 300 - 2200 | 220 - 1630 | 7 | 1" | 90 | 366 | 6.8 |
| LDA-32 Solution | 400 - 3200 | 295 - 2360 | 5 | 1" | 88 | 390 | 7.5 |
| LDA-40 Solution | 500 - 4000 | 370 - 2950 | 3,8 | 1" | 88 | 390 | 7.5 |
| LDA-60 Solution | 750 - 6000 | 560 - 4430 | 2,2 | 1½" | 102 | 405 | 9.1 |
| LDA-80 Solution | 1000 - 8000 | 740 - 5900 | 1,8 | 1½" | 128 | 423 | 12.1 |
| LDA-100 Solution | 1250 - 10000 | 930 - 7380 | 1,4 | 1½" | 142 | 438 | 14.0 |
| LDA-130 Solution | 1600 - 13 000 | 1180 - 9590 | 1,0 | 1½" | 174,5 | 454 | 20.1 |
| LAW-22 Solution | 300 - 2200 | 220 - 1630 | 7 | 1" | 90 | 256 | 8.7 |
| LAW-32 Solution | 400 - 3200 | 290 - 2360 | 5 | 1" | 88 | 289 | 9.4 |
| LAW-40 Solution | 500 - 4000 | 370 - 2950 | 3,8 | 1" | 88 | 289 | 9.4 |
| LAW-60 Solution | 750 - 6000 | 550 - 4430 | 2,2 | 1½" | 102 | 295 | 11.0 |

*Without reaction arm with battery Vibration is less than 2.5 m/s² Battery: 1260g
The continuous sound pressure as per DIN 455635 is < 80 dB(A)
Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

Scope of delivery

- › Device
- › Reaction arm cranked with lock on function made of chrome vanadium steel
- › 2x Lithium-ion battery (144 Wh/36 V/4 Ah)
- › Charger 220–240 V; 50/60 Hz or 110-120 V; 50/60 Hz for USA
- › Module LA.TRACK and LA.QS
- › Tool box
- › Operating manual
- › Factory calibration certificate

Optional accessories

- › Reaction arm made of light alloy, straight with adjustable locking knob with movable square-end and retaining ring
- › Reaction ring for bespoke reaction arm design



*USA: Illustration similar

LDE, LEW ELECTRIC TORQUE WRENCH

LDE



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



LEW



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



THE ELECTRIC TORQUE WRENCH

LDE/LEW SERIES, 90 - 13000 Nm



LEW series



Resistant gear unit combined with intelligent electronics

Setting new standards with the robust gear unit housing and intelligent electronics under the display: Service functions such as overload and recalibration are displayed to the user. In default, the display shows the torque level. In addition, if required, the display can be changed from torque level to torque value.

Further functions (optional)

Optionally, the electric torque wrench, which is available in straight and angled versions, can be upgraded with a data read-out function, the torque-rotation angle mode and the Nm display function.



Reliable documentation of results with the bolting module TRACK

The classical electric high-level torque wrench is also available with the TRACK documentation function. Designed for the toughest construction site applications, the inductive data transmission system is used for non-contact transfer of your data to the laptop/PC where you can conveniently edit them further.

[More information about documentation modules](#)
see pages 54/55



HAND GRIP



From version size LDE-70, the electric torque wrench is supplied with a rotating hand grip to facilitate the easy operation of the device.




The hand grip is included from size LEW-60 for the angled electric torque wrenches.



+

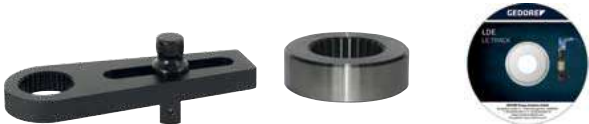
Scope of delivery

- › Device
- › Hand grip (from LDE-70/LEW-60)
- › Reaction arm cranked with lock on function made of chrome vanadium steel
- › Tool box
- › Operating manual
- › Factory calibration certificate

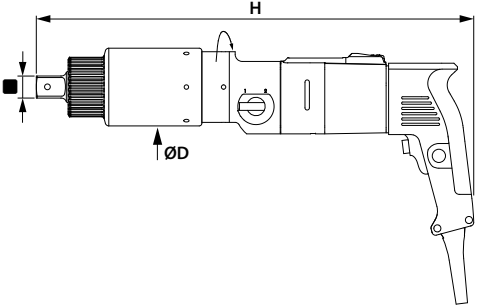


Optional accessories

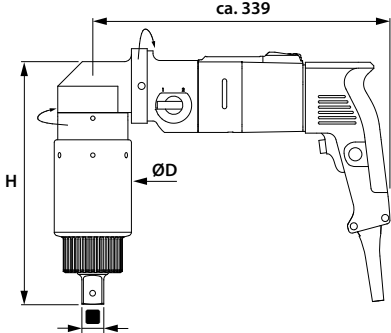
- › Reaction arm made of light alloy, straight with adjustable locking knob with movable square-end and retaining ring
- › Reaction ring for bespoke reaction arm design
- › Module LE.TRACK



Technical data



LDE series – straight version



LEW series – angled version

LDE series - straight version

| Type | N·m min ^{*1} /max ^{*2} | lbf·ft min ^{*1} /max ^{*2} | ~ U/min | ■ | Ø D mm | H mm | kg ^{*3} |
|---------|---------------------------------------------|------------------------------------------------|---------|--------|-----------|---------|------------------|
| LDE-05 | 90 - 500 | 70 - 370 | 44 | 3/4" | 80 | 405 | 4.5 |
| LDE-075 | 100 - 750 | 80 - 550 | 22 | 3/4" | 80 | 439 | 5.0 |
| LDE-15 | 250 - 1500 | 180 - 1110 | 20 | 1" | 88 | 455 | 6.1 |
| LDE-28 | 350 - 2800 | 260 - 2050 | 6 | 1" | 88 | 495 | 7.3 |
| LDE-40 | 500 - 4000 | 370 - 2950 | 5 | 1" | 88 | 495 | 7.3 |
| LDE-60 | 700 - 6000 | 520 - 4400 | 3.5 | 1 1/2" | 102 | 515 | 9.2 |
| LDE-70 | 850 - 7500 | 630 - 5500 | 3 | 1 1/2" | 128 | 531 | 12.1 |
| LDE-90 | 1100 - 9000 | 810 - 6600 | 2.5 | 1 1/2" | 142 | 542 | 14.0 |
| LDE-120 | 1600 - 13 000 | 1180 - 9500 | 2 | 1 1/2" | 174.5 | 560 | 20.0 |

^{*1} Lowest torque in 2nd gear ^{*2} Maximum torque in 1st gear ^{*3} Without reaction arm Vibration is less than 2.5 m/s²
The continuous sound pressure as per DIN 455635 is 78 dB (A) Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

LEW series - angled version

| Type | N·m min ^{*1} /max ^{*2} | lbf·ft min ^{*1} /max ^{*2} | ~ U/min | ■ | Ø D mm | H mm | kg ^{*3} |
|---------|---------------------------------------------|------------------------------------------------|---------|--------|-----------|---------|------------------|
| LEW-05 | 90 - 500 | 70 - 370 | 44 | 3/4" | 80 | 187 | 5.8 |
| LEW-075 | 100 - 750 | 80 - 550 | 22 | 3/4" | 80 | 220 | 6.4 |
| LEW-15 | 250 - 1500 | 180 - 1110 | 20 | 1" | 88 | 236 | 7.3 |
| LEW-28 | 350 - 2800 | 260 - 2050 | 6 | 1" | 88 | 276 | 8.6 |
| LEW-40 | 500 - 4000 | 370 - 2950 | 5 | 1" | 88 | 276 | 8.6 |
| LEW-60 | 700 - 6000 | 520 - 4400 | 3.5 | 1 1/2" | 102 | 296 | 10.7 |
| LEW-70 | 850 - 7500 | 630 - 5500 | 3 | 1 1/2" | 128 | 311 | 12.9 |
| LEW-95 | 1100 - 9500 | 810 - 7000 | 2.5 | 1 1/2" | 142 | 323 | 14.6 |
| LEW-120 | 1600 - 13 000 | 1180 - 9500 | 2 | 1 1/2" | 174.5 | 340 | 20.6 |

^{*1} Lowest torque in 2nd gear ^{*2} Maximum torque in 1st gear ^{*3} Without reaction arm Vibration is less than 2.5 m/s²
The continuous sound pressure as per DIN 455635 is 78 dB (A) Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

THE STEEL STRUCTURE TORQUE WRENCH

The steel structure torque wrench must be light but robust in design for the assembly of bridges or steel construction projects. We are prepared for such situations. Decades of experience and development work, combined with the known high quality requirements, are clearly demonstrated by the torque wrenches in this range. As with all series devices, you can rely on the acknowledged torque precision of these special versions.



Technical data

| Type | N-m min*1/ max*2 | lbf-ft min*1/ max*2 | ~ U/min | ■ | Ø D mm | H mm | ⚖ kg *3 |
|----------|---------------------|------------------------|---------|------|-----------|---------|---------|
| LDE-09ST | 120 - 900 | 90 - 670 | 19.0 | 3/4" | 80 | 439 | 5.2 |
| LDE-16ST | 300 - 2200 | 220 - 1620 | 7.0 | 1" | 88 | 472 | 6.6 |
| LDE-28ST | 450 - 3200 | 330 - 2360 | 6.1 | 1" | 88 | 495 | 7.3 |
| LEW-09ST | 120 - 900 | 90 - 670 | 19.0 | 3/4" | 80 | 220 | 6.5 |
| LEW-16ST | 300 - 2200 | 220 - 1620 | 7.0 | 1" | 88 | 253 | 7.9 |
| LEW-28ST | 450 - 3200 | 330 - 2360 | 6.1 | 1" | 88 | 276 | 8.6 |

*1 Lowest torque in 2nd gear *2 Maximum torque in 1st gear *3 Without reaction arm Vibration is less than 2.5 m/s²
The continuous sound pressure as per DIN 455635 is 78 dB (A). All rights reserved. Subject to modifications without prior notice.

Steel Structure Torque Wrench
LDE-/LEW-09ST; Tightening of HV-connections from M12 to M24 (10.9)
LDE-/LEW-16ST; Tightening of HV-connections from M16 to M30 (10.9)
LDE-/LEW-28ST; Tightening of HV-connections from M20 to M36 (10.9)



THE CRANE TORQUE WRENCH

There are applications where torque wrenches have to provide even more power. This includes crane assembly at great heights. The devices in L-version are specially designed for the HV bolted connections on the tower sections of the Liebherr HC and EC models. We also offer the complete package here for the demanding user. Starting from the gear unit diameter precisely matched to the tower section and conical impact sockets right up to the appropriate reaction arm made of high-performance aluminium. In addition, higher loosening torques for disassembly, as well as special equipment and torque settings for other crane manufactures are available.



Technical data

Electric Torque Wrench

| Type | N-m min*1/ max*2 | lbf-ft min*1/ max*2 | ~ U/min | ■ | Ø D mm | H mm | ⚖ kg *3 |
|---------|---------------------|------------------------|---------|--------|-----------|---------|---------|
| LEW-60L | 1200 - 6500 | 880 - 4800 | 3.5 | 1 1/2" | 102 | 296 | 10.7 |
| LEW-75L | 1840 - 7500 | 1360 - 5535 | 1.6 | 1 1/2" | 102 | 317 | 12.0 |
| LEW-95L | 1100 - 9500 | 810 - 7000 | 2.2 | 1 1/2" | 138 | 324 | 17.7 |

*1 Lowest torque in 2nd gear *2 Maximum torque in 1st gear *3 Without reaction arm
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Also available as a Heavy Duty version. LEW-60L with increased torque.

Scope of delivery

- › Device
- › Hand grip
- › Reaction arm, HC-Design
- › Tool box
- › Operating manual
- › Factory calibration certificate



Optional accessories

- › Reaction arm EC-Design
- › SL type impact socket
- › Module LE.TRACK



LPK, LPK-X PNEUMATIC TORQUE WRENCH

LPK



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



LPK-X



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE



THE PNEUMATIC TORQUE WRENCH

LPK SERIES, 80 - 12800 Nm



Supplied with individual GEDORE
factory calibration certificate



Optional: Maintenance unit



Quiet and accurate torque
- even from just 2 bar operating pressure

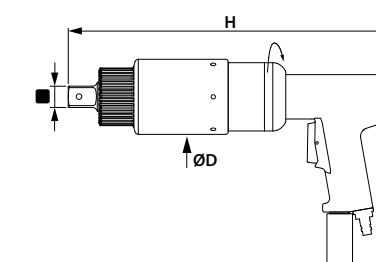
The pneumatic torque wrench functions without vibrations, thus protects the user. Hands on vibration and noise levels are significantly reduced with the GEDORE Torque Solutions GmbH pneumatic torque wrenches. The force is transmitted quietly and precisely from just 2 bar operating pressure via the proven high-performance gear unit to the bolt connection.





Robust pneumatic torque wrench for a wide range of environments

Because of the continuously generated overpressure in the device, the pneumatic torque wrench is particularly resistant when used in extremely dirty or dusty environments. Pressure fluctuations in the supply network are effectively compensated for by the proven maintenance unit comprising of an air filter, oiler and pressure reducers. The device is supplied with a constantly uniform airflow and the torque is constantly maintained.

Technical data



LPK series—pneumatic

| Type | N-m min*1/ max*2 | lbf-ft min*1/ max*2 | ~ U/min |  | Ø D mm | H mm |  |
|---------|---------------------|------------------------|---------|---------------------------------------------------------------------------------------|-----------|---------|---------------------------------------------------------------------------------------|
| LPK-05 | 80 - 450 | 60 - 330 | 55 | 3/4" | 80 | 295 | 3.1 |
| LPK-09 | 200 - 900 | 150 - 670 | 24 | 3/4" | 80 | 328 | 3.1 |
| LPK-15 | 300 - 1500 | 220 - 1110 | 12 | 1" | 88 | 343 | 4.1 |
| LPK-22 | 500 - 2200 | 370 - 1620 | 7 | 1" | 88 | 360 | 5.1 |
| LPK-32 | 800 - 3200 | 590 - 2360 | 4 | 1" | 88 | 383 | 5.1 |
| LPK-40 | 850 - 4200 | 620 - 3100 | 4 | 1" | 88 | 383 | 5.1 |
| LPK-60 | 1200 - 6000 | 880 - 4400 | 4 | 1½" | 102 | 400 | 7.1 |
| LPK-70 | 1500 - 7000 | 1110 - 5160 | 3 | 1½" | 128 | 416 | 10.1 |
| LPK-95 | 2000 - 9500 | 1470 - 7000 | 2.5 | 1½" | 142 | 431 | 12.1 |
| LPK-120 | 2500 - 12 800 | 1840 - 9440 | 1.5 | 1½" | 174.5 | 448 | 18.1 |

*1 Lowest torque at 1.5 bar *2 Maximum torque at 8 bar
The continuous sound pressure as per DIN 455635 is 84 dB(A)

^{*3} Without reaction arm Vibration is less than 2.5 m/s² At 8 bar ca. 1400 l/min.
Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

THE PNEUMATIC TORQUE WRENCH

LPK-X SERIES, 80 - 4200 Nm

Braked 360 °-rotating motor unit for comfortable working with optimal operator safety

Torque values readable on the label



Low-backlash high-performance gear unit for reliable, long-term operation

Reduced size and compact construction for extremely confined spaces

Supplied with individual GEDORE factory calibration certificate

Rocker switch for simple change of rotation direction

2-speed planet gear unit for up to 7-fold faster tightening speed



Scope of delivery

- > Device
- > Reaction arm cranked with lock on function made of chrome vanadium steel
- > Tool box
- > Operating manual
- > Factory calibration certificate

Optional accessories

- > Reaction arm made of light alloy, straight with adjustable locking knob with movable square-end and retaining ring
- > Reaction ring for bespoke reaction arm design
- > Hose (4m)
- > Maintenance unit

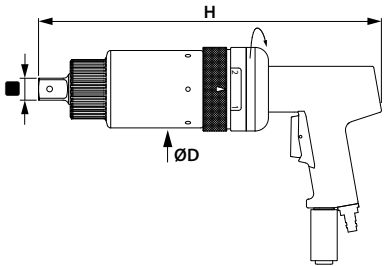


Up to 7 times higher bolting speed



The LPK-X series has a 2-speed planet gear unit. The user can therefore select between rapid and torque mode. The rapid mode drives the bolt in up to the joining torque with a speed up to 300 rpm. It is then possible to switch to the torque mode that tightens the bolt to the precise torque required. Once the required torque has been achieved, the device switches off automatically.

If a torque wrench is not available, bolt connections are usually pre-tightened and then finished off with a torque wrench. These two working steps are combined in the LPK-X, saving working time for the user. In extensive on-site applications, the assembly times can be reduced by up to 30% through the combination of two working steps in one device with the LPK-X.

Technical data



LPK-X series – pneumatic

| Typ | N-m min ^{*1} /max ^{*2} | lbf-ft min ^{*1} /max ^{*2} | ~ U/min ^{*3} |  | Ø D mm | H mm |  kg ^{*4} |
|----------|---------------------------------------------|------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|-----------|---------|--------------------------------------------------------------------------------------------------------|
| LPK-05 X | 80 - 450 | 60 - 330 | 300 | 3/4" | 80 | 301 | 3.0 |
| LPK-09 X | 200 - 900 | 150 - 670 | 100 | 3/4" | 88 | 333 | 4.0 |
| LPK-22 X | 500 - 2200 | 370 - 1620 | 30 | 1" | 88 | 367 | 5.5 |
| LPK-32 X | 800 - 3200 | 590 - 2360 | 25 | 1" | 88 | 390 | 6.2 |
| LPK-40 X | 850 - 4200 | 620 - 3100 | 20 | 1" | 88 | 390 | 7.0 |

^{*1}Lowest torque in 1st gear at 1.5 bar
At 8 bar ca. 1400 l/min. All rights reserved.

^{*2}Maximum torque in 1st gear at 8 bar
Vibration is less than 2.5 m/s²

^{*3}Maximum speed in 2nd gear
The continuous sound pressure as per DIN 455635 is 84 dB(A)

^{*4}Without reaction arm

LDH, LDK, LHU HYDRAULIC SOLUTIONS

LDH



SCOPE OF DELIVERY

- › DEVICE INCL.
SQUARE DRIVE AND
COUNTER BEARING
- › TOOL BOX
- › TORQUE-SETTING-TABLE
- › OPERATING MANUAL



LDK



SCOPE OF DELIVERY

- › DEVICE
- › TOOL BOX
- › TORQUE-SETTING-TABLE
- › OPERATING MANUAL

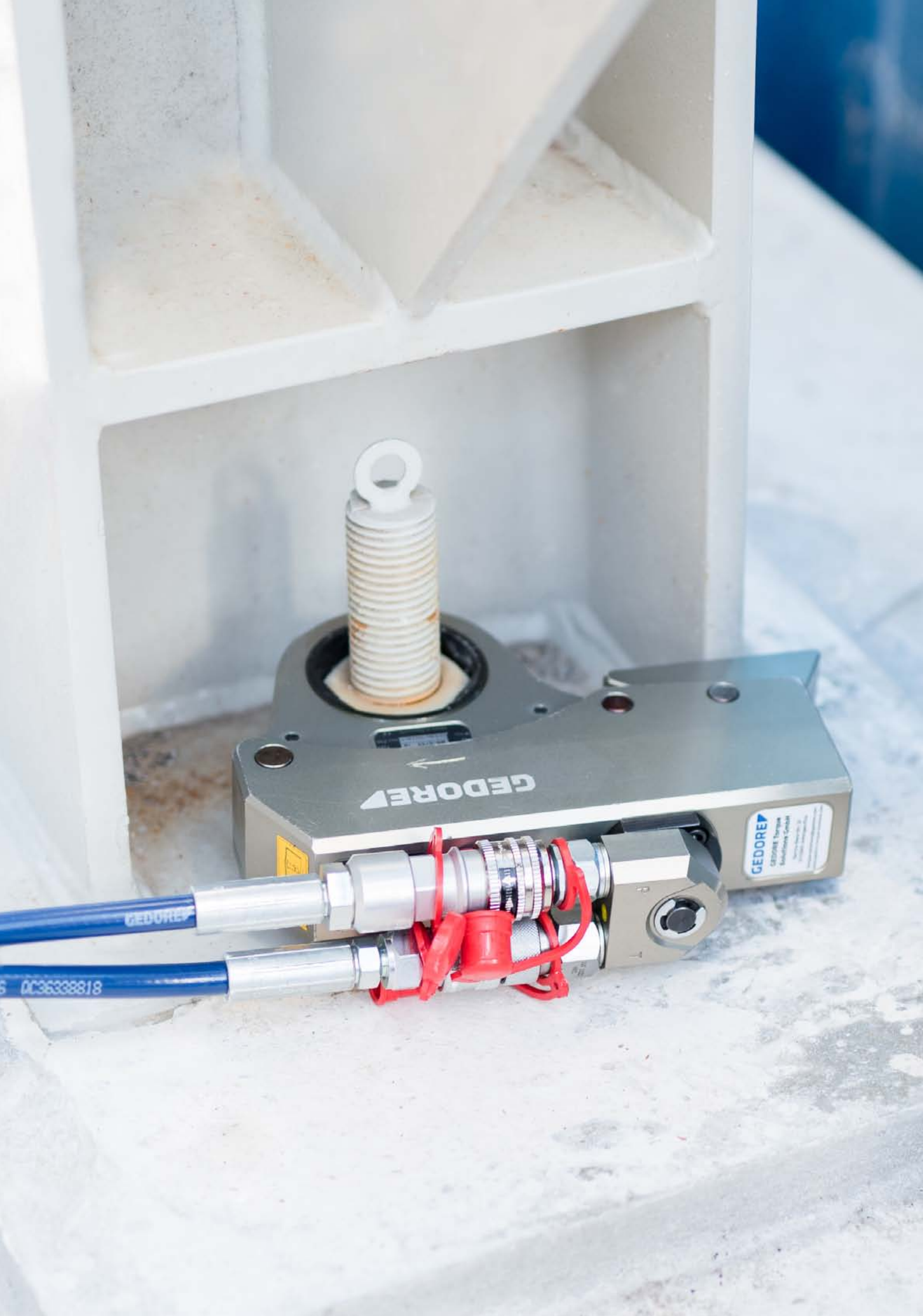


LHU



SCOPE OF DELIVERY

- › DEVICE OIL-FILLED
- › CONTROL (M/A OR S)
- › OPERATING MANUAL



THE HYDRAULIC TORQUE WRENCH

LDH SERIES, 60 - 27000 Nm

Integrated relief valve in the hydraulic connection increases work safety

360° rotating hydraulic connection under load for flexible bolting work


Reduced size and compact construction for extremely confined spaces

Quick-change mechanism for rapid shifting of the reaction arm

Super-light high performance aluminium for rugged and ergonomic handling


Various inserts as accessories for flexible working

Counter bearing with push button allows quick replacement of various inserts



Optional: Swivel connection

Optional: Inclined connection



Scope of delivery

- › Device
- › Square drive
- › Counter bearing
- › Tool box
- › Torque-setting-table
- › Operating manual



Optional accessories

- › Allen screw
- › Toothed impact sockets and special inserts on request
- › Different reaction arms (look p. 36)
- › Swivel connection (see above)
- › Inclined connection (see above)



Light, easy to handle and with high torque

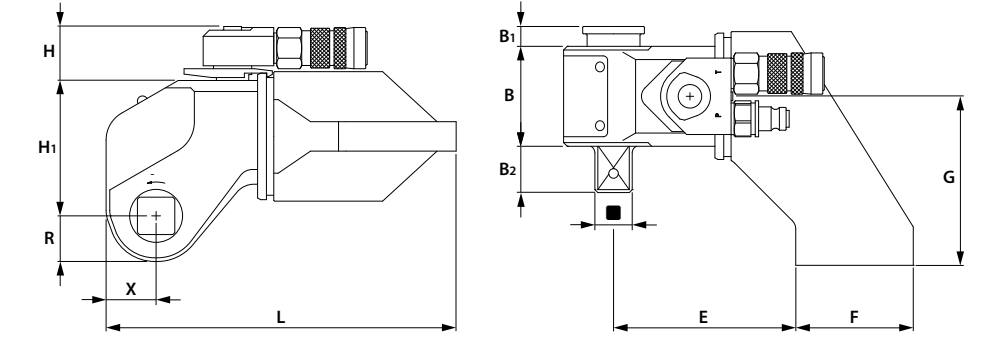
The LDH is used where space is limited but high torque is required. In order to facilitate bolting operations for the user, the hydraulic torque wrench series has been designed with high-performance aluminium and subject to continuous improvements. The size has therefore been constantly reduced while more and more features have been included to make the difficult work easier for the user.

An integrated relief valve ensures working safety and the flow-optimised, generously dimensioned oil channels reduce heating up of the device during high continuous loads to a minimum.

The perfect combination

Together with our hydraulic units, the hydraulic torque wrenches achieve a maximum in work performance. Both components together create an excellent synergy of user-friendliness and operating convenience.

Technical Data



Series LDH – hydraulic

| Type | N-m min/ max*1 | lbf-ft min/ max*1 | ■ | B mm | B ₁ mm | B ₂ mm | E mm ³ | F mm ³ | G mm | H mm | H ₁ mm | L mm ³ | R mm | X mm | kg*2 |
|----------|-------------------|----------------------|--------|---------|----------------------|----------------------|----------------------|----------------------|---------|---------|----------------------|----------------------|---------|---------|------|
| LDH-12V | 60 - 1200 | 45 - 880 | 3/4" | 46 | 7 | 28 | -/88 | -/48 | 78 | 37 | 62 | -/158 | 19 | 22 | 1.9 |
| LDH- 24V | 120 - 2350 | 90 - 1730 | 3/4" | 53 | 6 | 28 | 59/109 | 60/58 | 95 | 37 | 72 | 146/194 | 24 | 27 | 2.0 |
| LDH-48V | 230 - 4800 | 170 - 3500 | 1" | 68 | 14 | 32 | 70/125 | 89/80 | 115 | 37 | 92 | 193/239 | 31 | 34 | 3.9 |
| LDH-75V | 400 - 7560 | 290 - 5570 | 1 1/2" | 76 | 12 | 44 | 74/134 | 94/93 | 122 | 37 | 107 | 207/266 | 36 | 39 | 6.2 |
| LDH-100V | 500 - 10 000 | 370 - 7300 | 1 1/2" | 84 | 13 | 39 | 85/150 | 105/99 | 130 | 37 | 115 | 233/292 | 39 | 43 | 7.8 |
| LDH-170V | 800 - 16 000 | 590 - 11800 | 1 1/2" | 100 | 11 | 45 | 93/163 | 118/108 | 150 | 50 | 135 | 265/325 | 48 | 54 | 11.8 |
| LDH-270V | 1300-27 000 | 960 - 19900 | 2 1/2" | 119 | 18 | 76 | 121/206 | 145/133 | 200 | 50 | 164 | 329/402 | 59 | 63 | 24.0 |

*1 Maximum torque at 800 bar

*2 Without reaction arm

The continuous sound pressure as per DIN 455635 is < 70 dB(A)

*3 Reaction arm type L(LM) / Reaction arm type S(LM)

Vibration is less than 2.5 m/s²

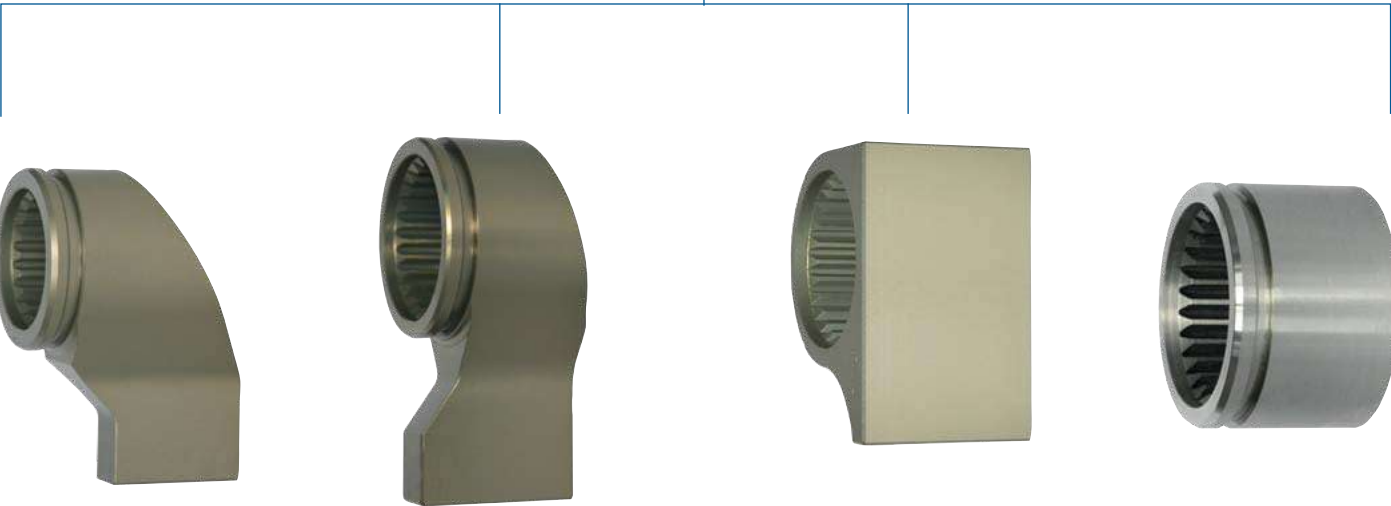
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Allen screw - ISW

| Type | ISW mm | Type | ISW mm | Type | ISW mm |
|---------|------------|------------|------------|-------------|-------------|
| LDH-12V | ISW 12V-14 | LDH-75V | ISW 75V-17 | LDH-170V | ISW 170V-27 |
| | ISW 12V-17 | | ISW 75V-19 | | ISW 170V-30 |
| | ISW 12V-19 | | ISW 75V-22 | | ISW 170V-32 |
| LDH-24V | ISW 24V-14 | | ISW 75V-24 | | ISW 170V-36 |
| | ISW 24V-17 | | ISW 75V-27 | | ISW 170V-41 |
| | ISW 24V-19 | | ISW 75V-30 | | ISW 170V-46 |
| | ISW 24V-22 | ISW 75V-32 | LDH-270V | ISW 270V-36 | |
| | ISW 24V-24 | LDH-100V | | ISW 100V-19 | ISW 270V-41 |
| LDH-48V | ISW 48V-17 | | | ISW 100V-22 | ISW 270V-46 |
| | ISW 48V-19 | | | ISW 100V-24 | ISW 270V-50 |
| | ISW 48V-22 | | | ISW 100V-27 | ISW 270V-55 |
| | ISW 48V-24 | | | ISW 100V-30 | ISW 270V-60 |
| | ISW 48V-27 | | | ISW 100V-32 | ISW 270V-65 |
| | ISW 48V-30 | | | ISW 100V-36 | ISW 270V-70 |
| | ISW 48V-32 | | | | |



Reaction arms



Reaction arm S (LM)
Standard design

Reaction arm L (LM) (except LDH-12V)
Compact design

Reaction arm K (LM)
For embedded screws
and raised allen screws

Reaction sleeve RH (St)

THE CASSETTE WRENCH

LDK SERIES, 160 - 24000 Nm

Relief valve in hydraulic connection
increases work safety

360° rotating hydraulic connection
under load for flexible bolting work

Compression bolt technology enables simple
insertion and replacement of the cassette

Light design ensures best
torque-weight relationship

Compact design for
confined spaces

Various wrench widths
ensure universal applications

Optional: Swivel connection

Optional: Inclined connection

Scope of delivery

- › Device
- › Tool box
- › Torque-setting-table
- › Operating manual



Optional accessories

- › Retaining ring – HR and hexagon insert – SA
- › Exchangeable cassette - WK
Inch sizes on request
- › In-Out impact socket
- › Swivel connection (see above)
- › Inclined connection (see above)





Simple loosening and precise tightening
in confined spaces

Tight spots can become problem spots. In such situations, the LDK series is the ideal solution. Compact dimensions are paired here with high torques. The flat hexagon cassettes have been optimised for minimum radius and compact construction heights.

Economic in use

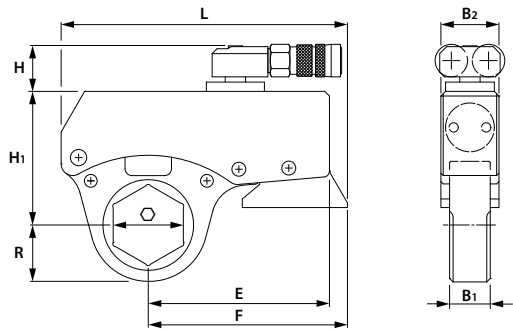
A separate cassette size is not always necessary for every wrench width. The installation spaces often leave enough room for the economic hexagon adapters. These are, like all the adaptations, locked in the corresponding interchangeable cassette with a holding ring so that they cannot be lost.




Simple operation and handling characterises
the cassette torque wrench

The interchangeable cassettes can be rapidly and easily changed with the compression bolt technology. Different types of hydraulic connections enable adaptation to diverse bolting operations even in difficult to access points.

Technical data



LDK series – hydraulic

| Type | N·m min/max ^{*1} | lbf·ft min/max ^{*1} | ⌀ mm | ⌀ " | B ₁ mm | B ₂ mm | E mm | F mm | H mm | H ₁ mm | L mm | R mm |  ^{*2} |
|----------|------------------------------|---------------------------------|----------|-----------|-------------------|-------------------|------|------|------|-------------------|------|---------|-----------------------------------------------------------------------------------------------------|
| LDK - 3 | 160 - 3300 | 120 - 2400 | 32 - 60 | 1¼" - 2⅜" | 28 | 40 | 137 | 145 | 39.2 | 91/103 | 137 | 28 - 48 | 1.6 |
| LDK - 6 | 350 - 6200 | 260 - 4500 | 41 - 80 | 1⅝" - 3⅞" | 35 | 50 | 156 | 172 | 39.2 | 115/130 | 156 | 34 - 60 | 2.4 |
| LDK - 12 | 550 - 12 500 | 410 - 9200 | 55 - 100 | 2⅜" - 3⅞" | 47 | 65 | 200 | 215 | 39.2 | 141/156 | 200 | 46 - 73 | 4.4 |
| LDK - 24 | 1200 - 24 000 | 880 - 17 700 | 80 - 130 | 3⅞" - 5" | 56 | 82 | 245 | 260 | 50.0 | 182/202 | 245 | 62 - 96 | 8.2 |

^{*1} Maximum torque at 800 bar ^{*2} Without exchangeable cassette
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Technical data: Interchangeable cassettes - WK, Hexagon insert - SA, Retaining ring - HR

| Type | WK Typ | R mm | H ₁ mm | N·m max ^{*1} | lbf·ft max ^{*1} | SA ^{*2} SW/SW | | | HR mm |
|--------|-----------|---------|----------------------|--------------------------|-----------------------------|---------------------------|--------------|--------------|----------|
| LDK-3 | WK3-32 | 28.5 | 91 | 1700 | 1300 | - | - | - | - |
| | WK3-36 | 31.5 | 91 | 2100 | 1550 | - | - | - | - |
| | WK3-41 | 34.5 | 91 | 2500 | 1850 | SA3-41»36 | SA3-41»32 | SA3-41»30 | HR-41 |
| | WK3-46 | 38.5 | 91 | 2890 | 2130 | SA3-46»41 | SA3-46»36 | SA3-46»32 | HR-46 |
| | WK3-50 | 42.0 | 103 | 3290 | 2430 | SA3-50»46 | SA3-50»41 | SA3-50»36 | HR-50 |
| | WK3-55 | 45.0 | 103 | 3290 | 2430 | SA3-55»50 | SA3-55»46 | SA3-55»41 | HR-55 |
| | WK3-60 | 47.5 | 103 | 3290 | 2430 | SA3-60»55 | SA3-60»50 | SA3-60»46 | HR-60 |
| LDK-6 | WK6-41 | 34.5 | 115 | 3840 | 2830 | SA6-41»36 | - | - | HR-41 |
| | WK6-46 | 39.5 | 115 | 4805 | 3540 | SA6-46»41 | SA6-46»36 | SA6-46»32 | HR-46 |
| | WK6-50 | 43.5 | 115 | 5410 | 3990 | SA6-50»46 | SA6-50»41 | SA6-50»36 | HR-50 |
| | WK6-55 | 46.5 | 115 | 5410 | 3990 | SA6-55»50 | SA6-55»46 | SA6-55»41 | HR-55 |
| | WK6-60 | 48.5 | 115 | 5410 | 3990 | SA6-60»55 | SA6-60»50 | SA6-60»46 | HR-60 |
| | WK6-65 | 52.5 | 130 | 6190 | 4570 | SA6-65»60 | SA6-65»55 | SA6-65»50 | HR-65 |
| | WK6-70 | 55.5 | 130 | 6190 | 4570 | SA6-70»65 | SA6-70»60 | SA6-70»55 | HR-70 |
| | WK6-75 | 57.5 | 130 | 6190 | 4570 | SA6-75»70 | SA6-75»65 | SA6-75»60 | HR-75 |
| LDK-12 | WK6-80 | 60.5 | 130 | 6190 | 4570 | SA6-80»75 | SA6-80»70 | SA6-80»65 | HR-80 |
| | WK12-55 | 46.5 | 141 | 8000 | 5900 | SA12-55»50 | SA12-55»46 | SA12-55»41 | HR-55 |
| | WK12-60 | 48.5 | 141 | 8000 | 5900 | SA12-60»55 | SA12-60»50 | SA12-60»46 | HR-60 |
| | WK12-65 | 52.5 | 141 | 9800 | 7230 | SA12-65»60 | SA12-65»55 | SA12-65»50 | HR-65 |
| | WK12-70 | 55.5 | 141 | 9800 | 7230 | SA12-70»65 | SA12-70»60 | SA12-70»55 | HR-70 |
| | WK12-75 | 57.5 | 141 | 9800 | 7230 | SA12-75»70 | SA12-75»65 | SA12-75»60 | HR-75 |
| | WK12-80 | 60.5 | 141 | 10 860 | 8010 | SA12-80»75 | SA12-80»70 | SA12-80»65 | HR-80 |
| | WK12-85 | 64.5 | 156 | 12 500 | 9220 | SA12-85»80 | SA12-85»75 | SA12-85»70 | HR-85 |
| | WK12-90 | 67.5 | 156 | 12 500 | 9220 | SA12-90»85 | SA12-90»80 | SA12-90»75 | HR-90 |
| | WK12-95 | 70.5 | 156 | 12 500 | 9220 | SA12-95»90 | SA12-95»85 | SA12-95»80 | HR-95 |
| LDK-24 | WK12-100 | 73.5 | 156 | 12 500 | 9220 | SA12-100»95 | SA12-100»90 | SA12-100»85 | HR-100 |
| | WK24-80 | 62.0 | 182 | 13 950 | 10 290 | SA24-80»75 | SA24-80»70 | SA24-80»65 | HR-80 |
| | WK24-85 | 66.0 | 182 | 15 810 | 11 660 | SA24-85»80 | SA24-85»75 | SA24-85»70 | HR-85 |
| | WK24-90 | 69.0 | 182 | 16 430 | 12 120 | SA24-90»85 | SA24-90»80 | SA24-90»75 | HR-90 |
| | WK24-95 | 72.0 | 182 | 17 860 | 13 170 | SA24-95»90 | SA24-95»85 | SA24-95»80 | HR-95 |
| | WK24-100 | 76.0 | 182 | 17 860 | 13 170 | SA24-100»95 | SA24-100»90 | SA24-100»85 | HR-100 |
| | WK24-105 | 80.0 | 182 | 17 860 | 13 170 | SA24-105»100 | SA24-105»95 | SA24-105»90 | HR-105 |
| | WK24-110 | 84.0 | 202 | 24 000 | 17 700 | SA24-110»105 | SA24-110»100 | SA24-110»95 | HR-110 |
| | WK24-115 | 87.0 | 202 | 24 000 | 17 700 | SA24-115»110 | SA24-115»105 | SA24-115»100 | HR-115 |
| | WK24-120 | 90.0 | 202 | 24 000 | 17 700 | SA24-120»115 | SA24-120»110 | SA24-120»105 | HR-120 |
| | WK24-125 | 93.0 | 202 | 24 000 | 17 700 | SA24-125»120 | SA24-125»115 | SA24-125»110 | HR-125 |
| | WK24-130 | 96.0 | 202 | 24 000 | 17 700 | SA24-130»125 | SA24-130»120 | SA24-130»115 | HR-130 |

^{*1} Maximum torque at 800 bar ^{*2} Special adapter on request Vibration is less than 2.5 m/s² The continuous sound pressure as per DIN 455635 is < 70 dB(A)
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THE HYDRAULIC UNIT

LHU SERIES

Completely sealed housing protects unit and operator even in the roughest of applications

Sensors are installed in the unit, not in the hydraulic torque wrench. This makes the unit compatible with all hydraulic torque wrenches (dual-hose system)

Wear-free pump technology means that the unit is maintenance-free

Plug-in connections for power and control system

Maximum pressure: 800 bar

Novel cooling air supply for optimal cooling of the unit even under extreme loads





Manual control - M
The classic, semi-automatic control system enables the user to manually initiate every stroke of the hydraulic torque wrench. The return stroke is automatic.

OR






Automatic control - A
The bolting operation is started by pressing a button, then automatically implemented and ended in the automatic control mode.

OR



Modular control - Solution
The Solution control system is modularly expandable. All settings can be configured and bolting operations documented via the display.

Technical data

| Type | V / Hz | MP L/min., bar | HP L/min., bar | Tank L ^{*1} | LxBxH mm |  kg ^{*2} - M |  kg ^{*2} - A |  kg ^{*2} - Solution |
|--------|------------|----------------|----------------|----------------------|-------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| LHU-30 | 110/50 | 2.1/320 | 0.7/800 | 3.0 | 400x240x380 | 27.0 | 27.2 | 27.5 |
| LHU-30 | 110/60 | 2.5/320 | 0.8/800 | 3.0 | 400x240x380 | 27.0 | 27.2 | 27.5 |
| LHU-30 | 230/50 | 1.7/320 | 0.8/800 | 2.5 | 400x240x380 | 27.0 | 27.2 | 27.5 |
| LHU-30 | 230/60 | 2.5/320 | 0.8/800 | 3.0 | 400x240x380 | 27.0 | 27.2 | 27.5 |
| LHU-35 | 110/50 | 3.0/320 | 0.8/800 | 3.5 | 570x275x400 | 41.5 | 42.0 | 42.5 |
| LHU-35 | 110/60 | 3.5/320 | 1.0/800 | 3.5 | 570x275x400 | 41.5 | 42.0 | 42.5 |
| LHU-40 | 230/50 | 3.1/320 | 0.7/800 | 4.0 | 480x270x400 | 33.0 | 33.5 | 34.0 |
| LHU-40 | 230/60 | 3.7/320 | 0.9/800 | 4.0 | 480x270x400 | 33.0 | 33.5 | 34.0 |
| LHU-60 | 400/50, 60 | 4.7, 5.6/320 | 1.4, 1.7/800 | 6.2 | 480x270x400 | 36.5 | 37.2 | 37.5 |

^{*1} Supplied filled with oil and ready for operation ^{*2} Weight with control system, without oil
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Modular control LHU Solution

The LHU Solution series is the high-end model in modern hydraulic unit technology. The operator controls the entire bolting process via remote control. In addition to the basic bolting methods (manual, automatic and torque-rotation angle), the control system can be retrofitted according to your requirements with additional modules of our bolting software.

More information about documentation modules see pages 54/55

The display and its functions:

Integrated work lighting

Visual and acoustic user guidance

3.5 „high-resolution LCD color display with impact-resistant macrolon screen

Back button

Start bolting

Integrated holding magnets on the back for secure fixation on metallic surfaces

Inductive interface for data transmission

Adjustment wheel for easy selection of bolting options and torque values

Enter button

Pump OFF



LKV, LKS MANUAL SOLUTIONS

LKV



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM CRANKED
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE
- › TORQUE CALCULATOR



LKV-L OR Z



SCOPE OF DELIVERY

- › DEVICE
- › REACTION ARM
- › TOOL BOX
- › OPERATING MANUAL
- › FACTORY CALIBRATION CERTIFICATE
- › TORQUE CALCULATOR



LKS



SCOPE OF DELIVERY

- › DEVICE
- › OPERATING MANUAL



THE TORQUE MULTIPLIER

LKV SERIES, 500 - 54000 Nm

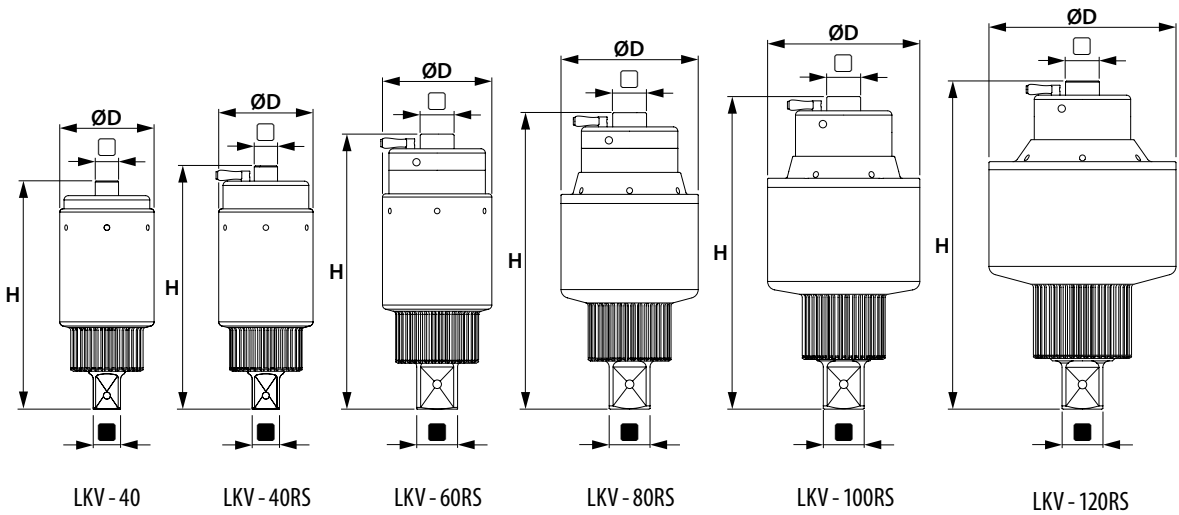


Supplied with individual GEDORE factory calibration certificate



LKV-40 LKV-40RS LKV-60RS LKV-80RS LKV-100RS LKV-120RS

Technical data LKV-40 - LKV-120RS



| Type | N-m max | lbf-ft max | N-m min / max*1 | lbf-ft min / max*1 | : *2 | | | Ø D mm | H mm | kg *3 |
|-----------|---------|------------|-----------------|--------------------|--------|----|------|--------|-------|-------|
| LKV-40 | 300 | 220 | 500 - 4000 | 400 - 2930 | 1:16 | ½" | 1" | 88 | 212.8 | 3.9 |
| LKV-40RS | 310 | 230 | 500 - 4000 | 400 - 2930 | 1:16 | ½" | 1" | 88 | 226.9 | 4.2 |
| LKV-60RS | 400 | 300 | 650 - 6000 | 500 - 4400 | 1:18 | ¾" | 1 ½" | 102 | 256.2 | 6.6 |
| LKV-80RS | 420 | 310 | 800 - 8000 | 600 - 5870 | 1:22 | ¾" | 1 ½" | 128 | 276.5 | 9.1 |
| LKV-100RS | 410 | 305 | 1000 - 10 000 | 700 - 7330 | 1:28.5 | ¾" | 1 ½" | 142 | 291.5 | 10.9 |
| LKV-120RS | 380 | 280 | 1320 - 13 000 | 1000 - 9530 | 1:39 | ¾" | 1 ½" | 174.5 | 306 | 17.0 |

*1 Maximum load limit! Take into account a reserve of ~25% when selecting a device and, where applicable, note increased loosening torques!
*2 Approximate data *3 Without reaction arm (except for LwKV-550RS device with reaction plate)
Further torque ranges on request. All rights reserved. Subject to modifications without prior notice.

Scope of delivery

- › Device
- › Reaction arm cranked with lock on function made of chrome vanadium steel (up to LKV-80 RS)
- › Tool box
- › Operating manual
- › Factory calibration certificate
- › Torque calculator



Optional accessories

- › Reaction arm cranked with lock on function, made of light alloy with protective cap made of steel (from LKV-100)
- › Reaction arm made of light alloy, straight with adjustable locking knob with moveable square-end and retaining ring (up to LKV-100)



Mechanical, hand operated torque multiplier for controlled tightening and untightening of bolt-connections

Housing and gear unit

The housing and gear unit are the innovations in this series. A new production method was created, based on nature. The housing is therefore approx. 30 % lighter but still sturdy. At the same time, the ceramic-Teflon® coating enables minimum device lubrication. While conventional lubricated torque multipliers decrease in performance (efficiency) when the outside temperatures are colder, due to the increasing tenacity of the grease, this unit operates independently of the temperature.

Non-destructive overload protection

The 40-120RS models are equipped with a non-destructive overload safety mechanism. This patent-filed innovation represents real cost savings for the user. The basis of this extra feature is a highly-dynamic, pre-tensioned slip-coupling. As soon as the maximum permissible input torque is exceeded, the „Slipper“ triggers with a clearly audible acoustic noise. The torque multiplier is not damaged so that normal operation can be started again. This means that no assembly downtimes occur and the safety of the operator is actively supported.

Certified safety

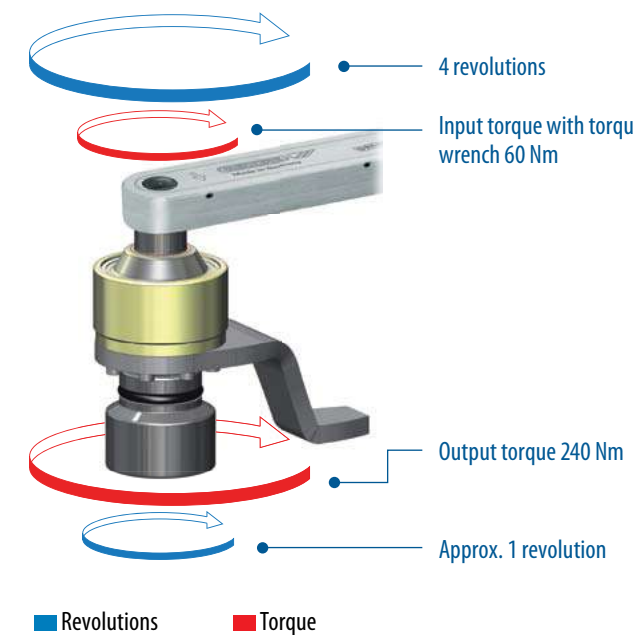
A completely new benefit for the torque multiplier is the individual factory calibration certificate for each device. This has never been the case before. This allows bolting operations to be implemented at a high level of torque precision. The torque tables on the devices display the standard torque for HV bolts. The tables can also be modified on request to the individual torques of the operator.



THE FUNCTION PRINCIPLE

i

Torque - Speed



The image demonstrates the principle of torque multiplication. Let us assume a 60 Nm input torque and a 240 Nm output torque. At a 1:4 ratio, 4 revolutions are needed at the input for 1 revolution with a 240 Nm torque to be obtained at the output.

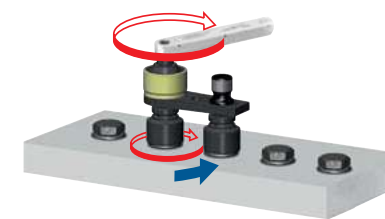
This is based on the physical formula:

$$\text{Power} = \text{torque} \times \text{revolution}$$

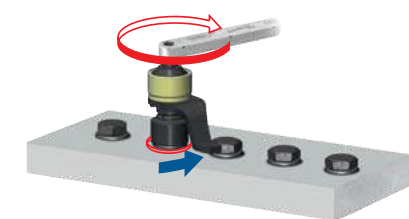
With gear efficiency deducted, the output power can be considered as a constant equal to the input power. Thus multiplication of the torque can only be obtained from an increased number of revolutions at the input.

Force and reaction

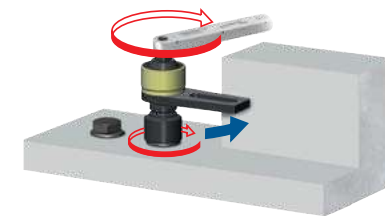
When working with a torque multiplier, torsion wind-up is built up in the gear while the bolt is tightened. This stress must be reduced. A reaction absorbed by reaction arm and thrust bearing is produced.



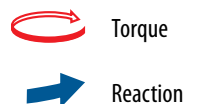
Reaction arm made of light alloy, straight with adjustable locking knob with slave square: The reaction acts on the adjacent impact socket



Reaction arm cranked: The reaction acts on the adjacent bolt connection



Reaction arm straight without adjustable reaction square drive: The reaction acts on the wall. However, the resulting tilting moment means that the maximum permitted torque is reduced by 20%.



THE TORQUE MULTIPLIER

SERIES LKV, 50 - 1300 Nm



Scope of delivery

- › Device
- › Reaction arm cranked with lock on function made of chrome vanadium steel
- › Tool box
- › Operating Manual
- › Factory calibration certificate
- › Torque calculator



Optional accessories

- › Reaction arm made of light alloy, straight with adjustable locking knob with slave square and retaining ring
- › Replacement sun wheel (replacement part)



TECHNICAL DATA LKV-12



Small, easy to handle, light and sturdy

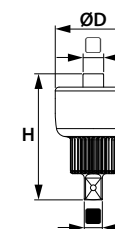
The smallest torque multiplier in this series is particularly suitable for maintenance purposes and in workshops. The little power packet has been reduced to the smallest possible dimensions without losing any robustness or torque power. It is equipped with an offset reaction arm and can be retrofitted with a straight reaction arm.









The sun gear acts as a predetermined breaking point if the device is overloaded. This protects both the operator and the device. The sun gear can be easily and rapidly replaced by the operator. Assembly and cost outlay remain low.



The optimal on-board tool

The LKV-12 has small dimensions and can fit in a pocket. This device is highly suitable for use as an on-board tool in utility or construction site vehicles. It can be stored in the vehicle in a stable transport case. Due to the minimum lubrication of the gear unit, the device is not effected by temperature changes and can be operated without problems even at freezing temperatures.



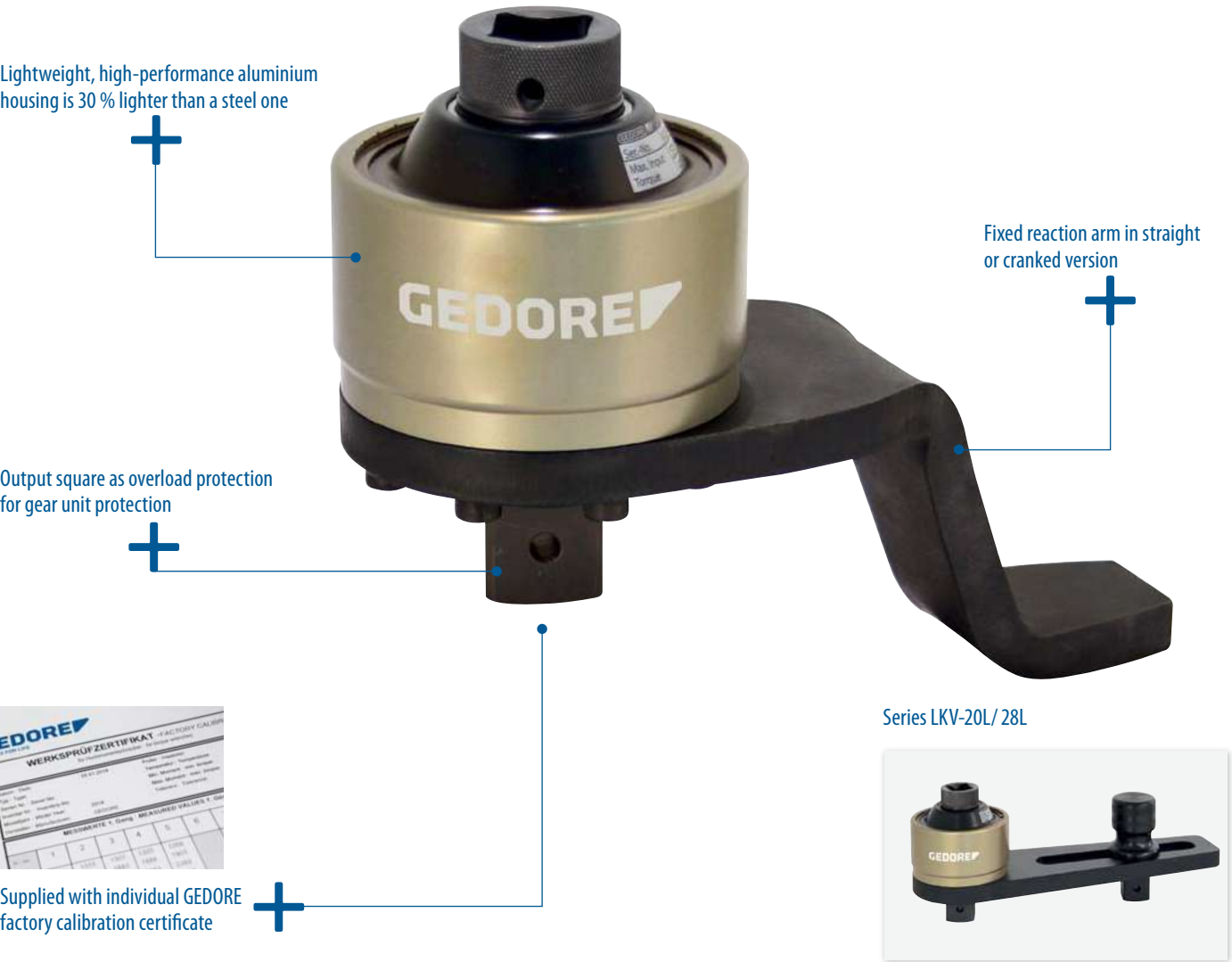
| Type |  N-m max |  lbf-ft max |  N-m min / max ^{*1} |  lbf-ft min / max ^{*1} |  ^{*2} |  |  | Ø D mm | H mm |  |
|--------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------|---------|---------------------------------------------------------------------------------------|
| LKV-12 | 270 | 200 | 50 - 1300 | 40 - 950 | 1:5 | 1/2" | 3/4" | 80 | 132.5 | 1.1 |

*1 Maximum load limit! Take into account a reserve of ~25% when selecting a device and, where applicable, note increased loosening torques!

^{*2} Approximate data ^{*3} Without reaction arm

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THE TORQUE MULTIPLIER
SERIES LKV, 100 - 2800 Nm



Scope of delivery

- › Device
- › Reaction arm cranked or straight (screwed to the device)
- › Tool box
- › Operating Manual
- › Factory calibration certificate
- › Torque calculator



Replacement parts

- › Replacement square drive for LKV-20
- › Replacement square drive for LKV-28



TECHNICAL DATA LKV-20/28



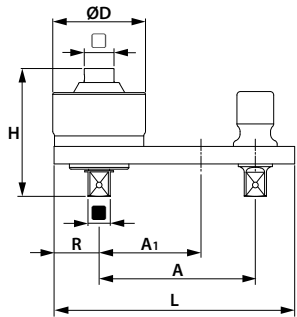
Popular for flange bolt connections:
LKV-20/28L

The positioning of the torque multiplier must be implemented easily and rapidly, particularly for flange bolt connections. The LKV-L is equipped with a fixed straight reaction arm and is therefore a complete solution for flange bolt connections. The required spacing between two bolts can be rapidly and easily set using the adjustable reaction square, accelerating work.

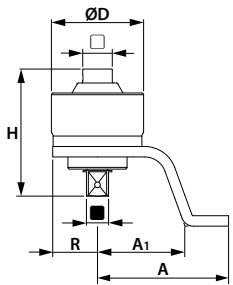


Practical and easy to handle:
LKV-20/28Z

The LKV-Z series is particularly suitable for mechanical and plant engineering, maintenance and the transport industry. This series also has a fixed reaction arm, but cranked version. The gear unit is protected against overload with a shearing square which can be easily replaced.



LKV-L



LKV-Z

| Type | N-m max | lbf-ft max | N-m min / max*1 | lbf-ft min / max*1 | *2 | | | A mm | A ₁ mm | Ø D mm | H mm | R mm | kg*3 |
|---------|------------|---------------|--------------------|-----------------------|-------|----|----|---------|----------------------|-----------|---------|---------|------|
| LKV-20L | 580 | 430 | 100 - 2000 | 70 - 1500 | 1:4 | ¾" | 1" | 152 | 73 | 88 | 131 | 43 | 1.8 |
| LKV-20Z | 580 | 430 | 100 - 2000 | 70 - 1500 | 1:4 | ¾" | 1" | 150 | 100 | 88 | 131 | 43 | 1.8 |
| LKV-28L | 550 | 410 | 500 - 2800 | 400 - 2050 | 1:5.5 | ¾" | 1" | 199 | 83 | 106 | 146 | 52 | 2.4 |
| LKV-28Z | 550 | 410 | 500 - 2800 | 400 - 2050 | 1:5.5 | ¾" | 1" | 151 | 101 | 106 | 146 | 52 | 2.4 |

*1 Maximum load limit! Take into account a reserve of ~25% when selecting a device and, where applicable, note increased loosening torques!

*2 Approximate data *3 Without reaction arm

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THE COUNTER WRENCH

LKS SERIES, RSW 32 - 115 mm

Rugged housing made of cast steel

The allen screw fixes the ring wrench inserts and enables simple and rapid replacement

Pivoted reaction arm adjusts to the most diverse environments. Can also be used without reaction arm

Various ring wrench inserts enable universal holding up

Optional ring wrench inserts RSW 32-115mm

Ring wrench inserts with different widths of 32-115 mm

Special inserts on request



Danger to assembly personnel must be avoided

Every user knows the problems and dangerous situations that can arise when counter-holding while a bolted connection is being tightened. The wrench used for counter-holding can often rotate with unpredictable torques, block or jump off. Once the bolting operation is complete, it often needs to be levered off or even knocked off. The danger of injury for the assembly personnel is very high here and the risk of damaging neighbouring components or the tools is also significant. The results can be irritating, time loss and assembly downtimes.


Frequently copied, but never matched

The patented mechanism of the GEDORE counter wrench is unique. Only the precise interplay of the individual components ensures correct and problem-free function. Cheaper copies can bend or stick under large loads. The ring inserts are made of forged chrome-vanadium steel as of size 70.

The solution: The GEDORE Counter Wrench

Equipped with the appropriate insert, the device utilises a thrust bearing and absorbs the driving torque with the integrated mechanics. Following completion of the bolting operation, a simple press of the lever and the counter-wrench can be rapidly and easily released.

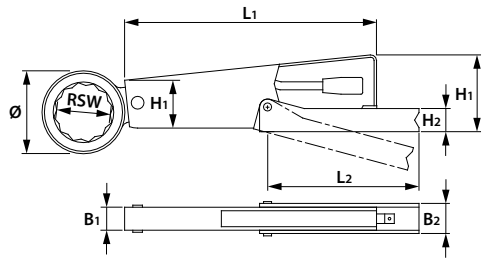
Technical data

| Type | L ₁ mm | B ₁ mm | H ₁ mm | L ₂ mm | B ₂ mm | H ₂ mm |  |
|------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------------------------------------------------------------------------|
| LKS | 310 | 27 | 65/95 | 190 | 38 | 30 | 2.6 / 0.4 ^{*1} |

^{*1} Plus reaction element

Ring wrench inserts type RSW

| RSW mm | Ø ^{*2} mm | RSW mm | Ø ^{*2} mm | RSW mm | Ø ^{*2} mm |
|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|
| 32 | 54 | 60 | 94 | 90 | 152 |
| 36 | 54 | 65 | 104 | 95 | 152 |
| 41 | 60 | 70 | 110 | 100 | 155 |
| 46 | 75 | 75 | 115 | 105 | 172 |
| 50 | 80 | 80 | 126 | 110 | 172 |
| 55 | 88 | 85 | 130 | 115 | 172 |



^{*2} Head diameter (Ø similar DIN 7444)
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WORK LOGGED AND CONTROLLED WITH THE BOLTING SOFTWARE

Increasing safety and quality requirements make it necessary to prove the quality of each individual fitting.

With the software modules, bolted connections can not only be predefined and saved, but also logged for quality-assured archiving.

Documentation module TRACK
for quality assurance

With the module TRACK bolting processes can be traced.
During the bolting work, the data is logged and then exported to the PC.
A bolting protocol can be created and saved as Adobe PDF or Microsoft Excel file.

This ensures that all bolts have been bolted with the correct settings.
The encrypted log file ensures that manipulation of the data is excluded.

Bolted Screw Protocol



| Master data | | | | | | | |
|-------------------------------------------------------------------------------------------------------|------------|----------|-----|--------------------------------------------------------|--------------------|--------------|--------|
| Personal Number Date | | | | Project Number | | | |
| Application Type ID No. bolt Tool | | | | Subassembly Department Quantity Serial Number | | | |
| LHD-75 | | | | | | | |
| Tightening process Torque tightening | | | | | | | |
| Evaluation | | | | | | | |
| Legend Status: AB = cancel, UL = overloading, TEMP = excess temperature, I.O = OK, n. I.O = not OK | | | | | | | |
| No. | Date | Time | R/L | Target torque [Nm] | Actual torque [Nm] | Typical bolt | Status |
| 1 | 22.01.2018 | 8:57:35 | R | 2800 | 2887 | M36 | I.O. |
| 2 | 22.01.2018 | 13:14:04 | R | 8000 | 7957 | M56 | I.O. |
| 3 | 22.01.2018 | 13:14:18 | R | 8000 | 7900 | M56 | I.O. |
| 4 | 22.01.2018 | 13:16:07 | R | 8000 | 7957 | M56 | I.O. |
| 5 | 22.01.2018 | 13:19:00 | R | 8000 | 7992 | M56 | I.O. |
| 6 | 22.01.2018 | 13:19:27 | R | 6500 | 6510 | M48 | I.O. |
| 7 | 22.01.2018 | 13:19:40 | R | 6500 | 6503 | M48 | I.O. |
| 8 | 22.01.2018 | 13:54:58 | R | 8000 | 8013 | M56 | I.O. |
| 9 | 22.01.2018 | 13:55:14 | R | 8000 | 8002 | M56 | I.O. |
| 10 | 22.01.2018 | 13:55:30 | R | 8000 | 6989 | M56 | UL |
| 11 | 22.01.2018 | 13:55:55 | R | 8000 | 7156 | M56 | UL |
| 12 | 25.01.2018 | 7:57:39 | R | 3010 | 3112 | M39 | I.O. |
| 13 | 25.01.2018 | 8:02:43 | R | 8000 | 8015 | M56 | I.O. |
| 14 | 25.01.2018 | 8:03:12 | R | 8000 | 0 | M56 | AB |
| 15 | 25.01.2018 | 8:03:32 | R | 8000 | 8021 | M56 | I.O. |
| 16 | 25.01.2018 | 8:03:46 | R | 8000 | 8004 | M56 | I.O. |
| 17 | 25.01.2018 | 8:04:05 | R | 8000 | 8021 | M56 | I.O. |
| 18 | 25.01.2018 | 8:04:21 | R | 8000 | 8004 | M56 | I.O. |
| 19 | 25.01.2018 | 8:04:38 | R | 8000 | 7452 | M56 | UL |
| 20 | 25.01.2018 | 8:04:57 | R | 8000 | 7276 | M56 | UL |
| 21 | 25.01.2018 | 8:05:17 | R | 8000 | 7108 | M56 | UL |
| 22 | 25.01.2018 | 8:06:41 | R | 2900 | 2912 | M39 | I.O. |
| 23 | 25.01.2018 | 8:12:06 | R | 8000 | 8012 | M56 | I.O. |
| 24 | 25.01.2018 | 8:12:24 | R | 8000 | 8026 | M56 | I.O. |
| 25 | 25.01.2018 | 8:12:42 | R | 8000 | 8010 | M56 | I.O. |
| 26 | 25.01.2018 | 8:14:30 | R | 6500 | 6521 | M48 | I.O. |
| 27 | 25.01.2018 | 8:14:46 | R | 6500 | 6547 | M48 | I.O. |
| 28 | 25.01.2018 | 8:15:00 | R | 6500 | 6523 | M48 | I.O. |
| 29 | 25.01.2018 | 8:15:20 | R | 6500 | 6508 | M48 | I.O. |
| 30 | 25.01.2018 | 8:15:35 | R | 6500 | 6557 | M48 | I.O. |
| 31 | 25.01.2018 | 8:21:24 | R | 5000 | 5055 | M45 | I.O. |
| 32 | 25.01.2018 | 8:21:38 | R | 5000 | 5034 | M45 | I.O. |
| 33 | 25.01.2018 | 8:21:50 | R | 5000 | 5050 | M45 | I.O. |
| 34 | 25.01.2018 | 8:22:03 | R | 5000 | 5063 | M45 | I.O. |
| 35 | 25.01.2018 | 8:22:19 | R | 5000 | 5030 | M45 | I.O. |
| 36 | 25.01.2018 | 8:22:32 | R | 5000 | 5050 | M45 | I.O. |
| 37 | 25.01.2018 | 8:33:03 | R | 5000 | 5013 | M45 | I.O. |
| 38 | 25.01.2018 | 8:33:17 | R | 5000 | 5030 | M45 | I.O. |
| 39 | 25.01.2018 | 8:33:30 | R | 5000 | 5013 | M45 | I.O. |
| 40 | 25.01.2018 | 8:33:50 | R | 6500 | 6513 | M48 | I.O. |
| 41 | 25.01.2018 | 8:34:23 | R | 8000 | 8045 | M56 | I.O. |
| 42 | 25.01.2018 | 8:34:44 | R | 4500 | 4503 | M42 | I.O. |
| 43 | 25.01.2018 | 8:34:57 | R | 4500 | 4506 | M42 | I.O. |

Original printed with GEDORE bolting software.

1 Detailed information

2 Log of bolting with device-specific documentation values:

- Date / time of each bolt
- Tightening process
 - DA – Torque tightening
 - DW – Torque angle tightening
- TARGET torque
- ACTUAL torque
- Typical bolt
- Bolted connection status
 - i. O – OK
 - n. i. O – not OK
 - AB – cancel
 - ÜL – overloading
 - TEMP – excess temperature

 Authentic check icon is displayed in the bolting software

3 Forgery-proof – only original protocols are provided with this line. If manipulated, this line disappears.

Quality management module QS
for definition and documentation

The QS module is suitable for all companies who need to define and document bolting cases according to quality management specifications.

The bolted connections and values are pre-defined on the PC using our bolting software. Here any number of bolted connections can be defined and stored. These are then loaded via the interface to the device and stored in a database.

The operator can only select from the stored bolting cases on the device. After the bolting process, the results of each bolt are loaded back to the PC and documented via the software as a Bolted Screw Protocol. For more detailed information, see the TRACK module (p. 54).

Define bolting case



 Define new bolting case

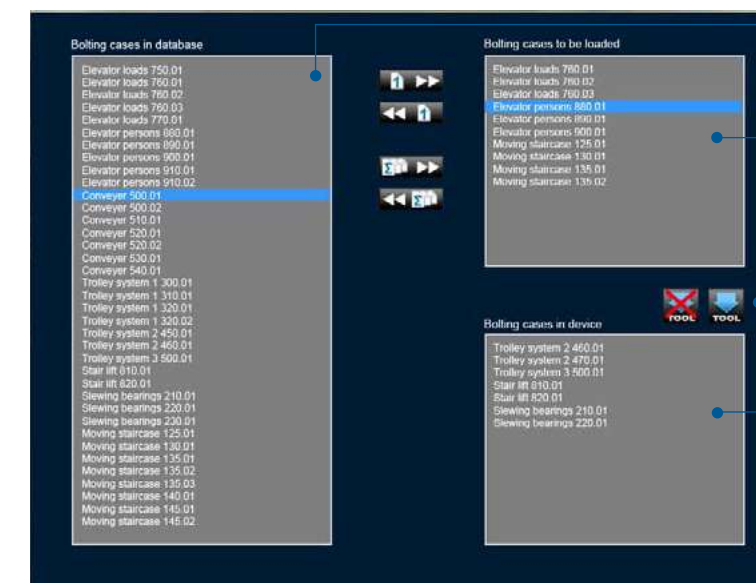
1 Detailed master data of your bolting case (including selection of tools) and four freely selectable fields

2 Selection of the desired tightening process

3 Entering the specifications of the bolting case

4 Definition of control parameters and error management

Data export to device



1 Bolting database

- 2 Selection of one or more bolting cases, which would like to be exported to the device











3 Export to device or delete from device

4 Current bolting cases on the device

Display status during data exports



Bolting software modules for the following devices available:

| | LDA/LAW Solution | LDE/LEW | LHU Solution | LDB | LHD |
|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Modul TRACK |  |  |  |  |  |
| Modul QS |  |  |  |  |  |

+ Optional available
 — Not possible

LDP, LTC

TORQUE TESTING BENCH TECHNOLOGY

LDP



SCOPE OF DELIVERY

- › DEVICE
- › SOFTWARE
- › OPERATING MANUAL
- › FACTORY CALIBRATION
CERTIFICATE FOR TORQUE SENSORS

LTC



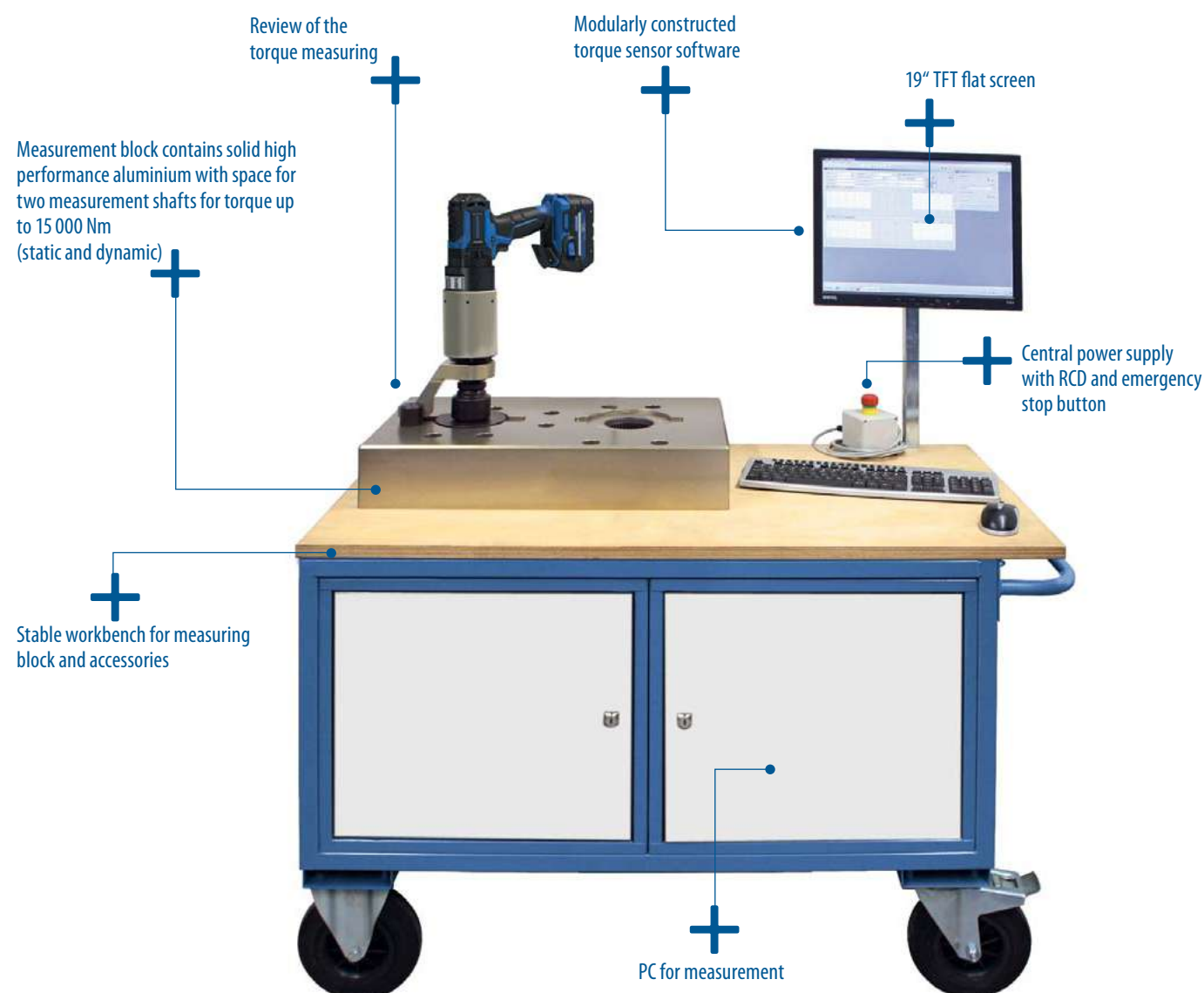
SCOPE OF DELIVERY

- › DEVICE
- › SOFTWARE
- › OPERATING MANUAL
- › FACTORY CALIBRATION
CERTIFICATE FOR TORQUE SENSORS

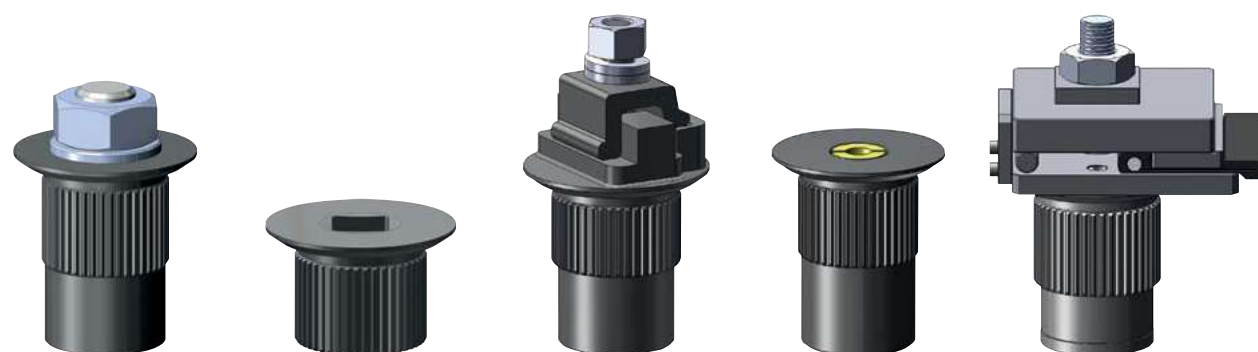


THE TORQUE TESTING BENCH TECHNOLOGY

LDP SERIES, 100 - 15000 Nm



Optional accessories – Bolt adapter



DYNAMIC TORQUE MEASUREMENT

If one considers the influencing factors that arise during the production of a correct bolted connection, it can be seen that the greatest influence is spread to the following factors based on the bolt itself: thread type and condition, grade, diameter, length, rotation speed – the list could be continued indefinitely.

For this reason, there are still no recommended measurement regulations from any of the official bodies for the traceable determination of dynamic torques. Torque measurements in which the resistance of the bolt connection is simulated via mechanical brake systems or similar, don't take into account significant influencing factors.

Static and dynamic torque measurement up to 15000 Nm

The torque testing bench system takes the actual aspects of your bolting applications in practice into account as much as is feasible. Original bolts with all the influencing factors that act on them are measured to determine the dynamic torques.

Correction factors are not necessary

The value determined during measurement is actually equivalent to the dynamic torque applied to the bolted connection. Subsequent addition of correction factors for hard or soft bolting operations is not necessary. This allows you to implement rational and error-free measurement in all application cases.

The modular kit

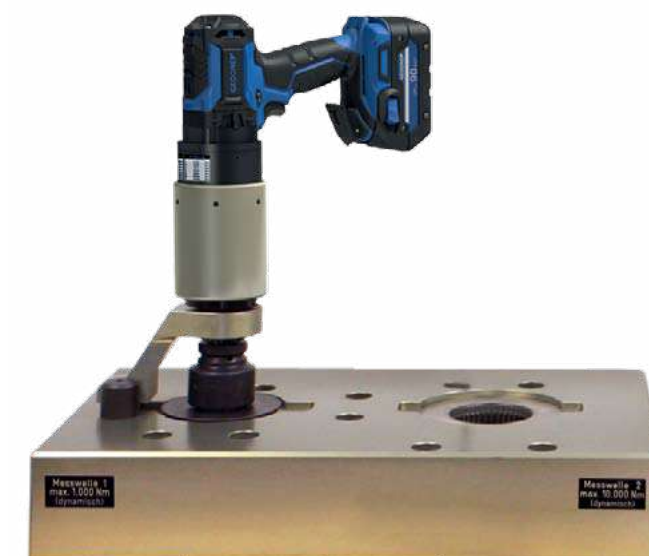
The interface between bolt and test bench is the so-called bolt adapter. The attachment of the bolt to the bolt adapter is simple. The bolted connection can be changed at any time, even during measurements. Special adaptations are just as easy with this system as the direct use of standard female hexagon inserts for static torque measurement of hydraulic wrenches, torque multipliers and torque wrenches.

Module for different languages

Certificates in various languages are increasingly required due to the international use of bolting systems. This is no longer a problem with the language module. The languages of all previously created factory calibration certificates can be changed during measurement and afterwards. Over 15 European and Asian languages are currently available.

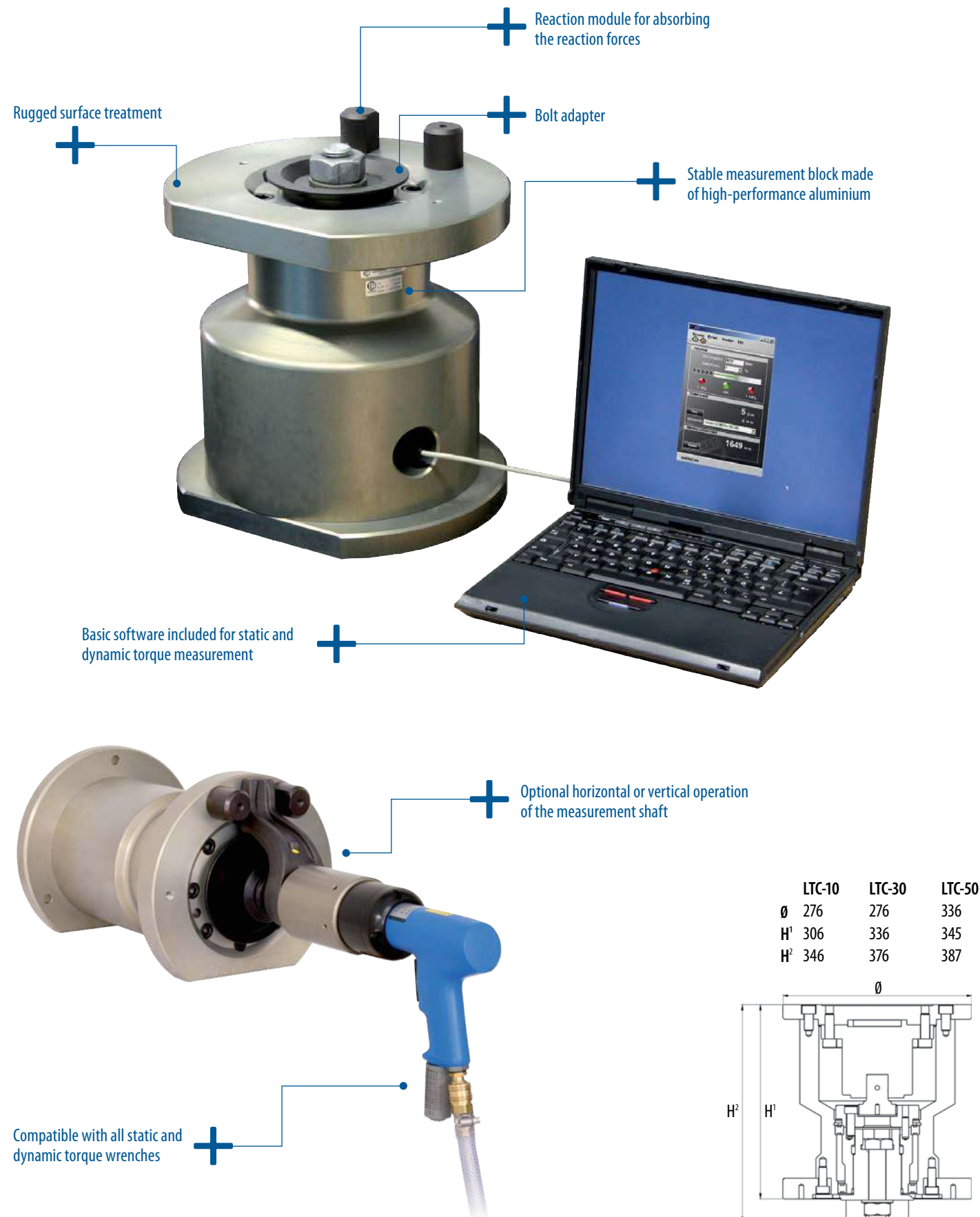
Module for graphical evaluation

The average values of all measurement series are recorded graphically and shown on the factory calibration certificate. The torque curve is recorded up to the maximum value for hydraulic torque wrenches and manual torque multipliers.



THE TORQUE TESTING BENCH TECHNOLOGY

LTC SERIES, 100 - 5000 Nm



Static and dynamic torque measurements up to 5000 Nm

Static and dynamic bolting systems must be regularly checked for their torque accuracy. The Torque Check (LTC) system was developed for simple, mobile and professional dynamic torque measurement.

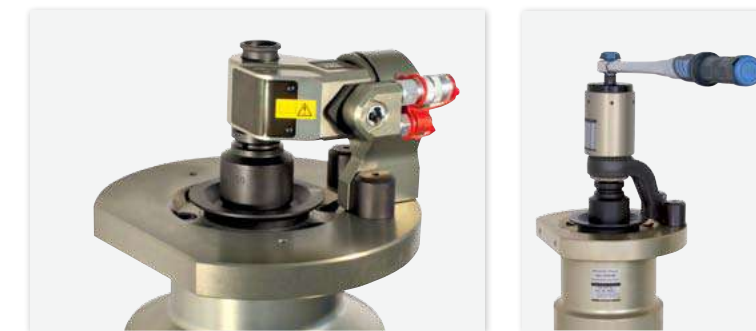
Torque measurement with our system

With this model you can rely on a tried-and-tested, practical measurement of your bolted cases. As in the larger LDP series the dynamic torque is determined using an original bolt. The supplied bolt adapter can be exchanged and replaced.

Basic software with comprehensive utility

The basic software included with the system has comprehensive utilities for rapid static and dynamic torque measurement in metric and imperial units. German and English are available as operating languages. At the end of each measurement, the system signals the operator immediately whether the determined values lie within the specified tolerances or not. The operator is constantly informed visually and numerically about the torque progress. This is particularly helpful when testing torque wrenches.

The basic software can be upgraded modularly to a complete test bench environment. So that the test bench grows from the entry model to a fully professional system together with your requirements.



The torque check is available for the following measuring ranges:

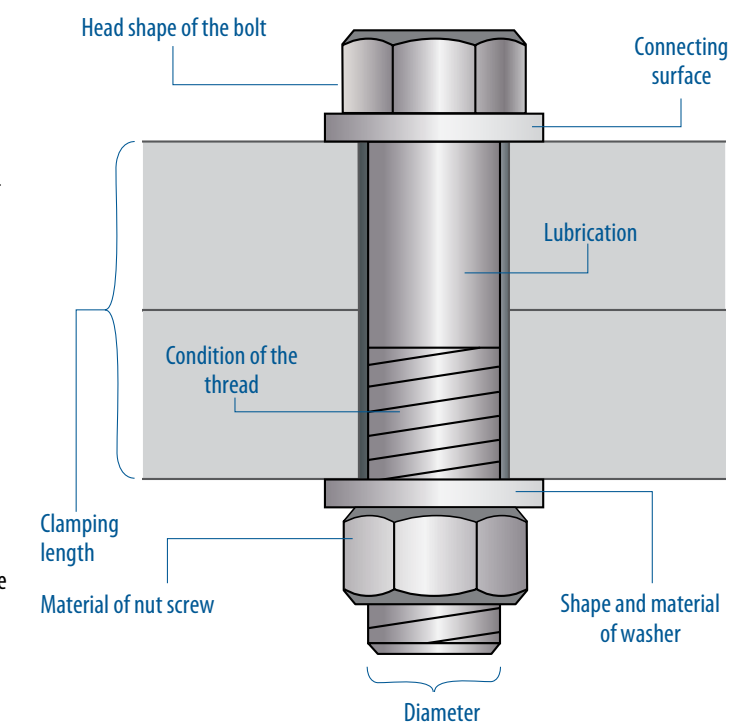
| | |
|--------|--------------|
| LTC-10 | 100–1 000 Nm |
| LTC-30 | 300–3 000 Nm |
| LTC-50 | 500–5 000 Nm |

Influencing factors of the bolt connection

The aim of every bolt tightening operation is to achieve the required clamp force that is generated between two components being connected. The clamp force is influenced by numerous factors in the torque process. This means that the expected clamp force may not be reached in the end because other influencing factors have reduced the force. Influencing factors can be the condition of the thread, lubrication, etc. It is therefore very important to know the bolted connection and relevant influencing factors before any bolt is tightened. But how can the required clamp force be achieved with reproducible accuracy? The answer is: calibrate the system settings using original bolts.

Teach-in with original bolts

We know the influencing factors for bolt connections and take them into consideration during the test procedure. Our philosophy is very close to practice. The bolt adapters in the torque testing benches are realised 1:1 with the real application case. All influencing factors are taken into account within this process. Even exotic bolting operations can be individually simulated with our torque testing benches. The entire system reacts flexibly to hard and soft, static and dynamic bolting operations. At the end of measurement, each device receives the individual factory calibration certificate.



SPECIAL SOLUTIONS FOR CUSTOMER SPECIFIC REQUIREMENTS

GATE VALVE
WRENCH LDA-S



GATE VALVE
WRENCH LDE-S



GATE VALVE
WRENCH LEW-S



SIDE POWER
WRENCH LES



SIDE POWER
WRENCH LPS



RAILWAY TORQUE
WRENCH LDB

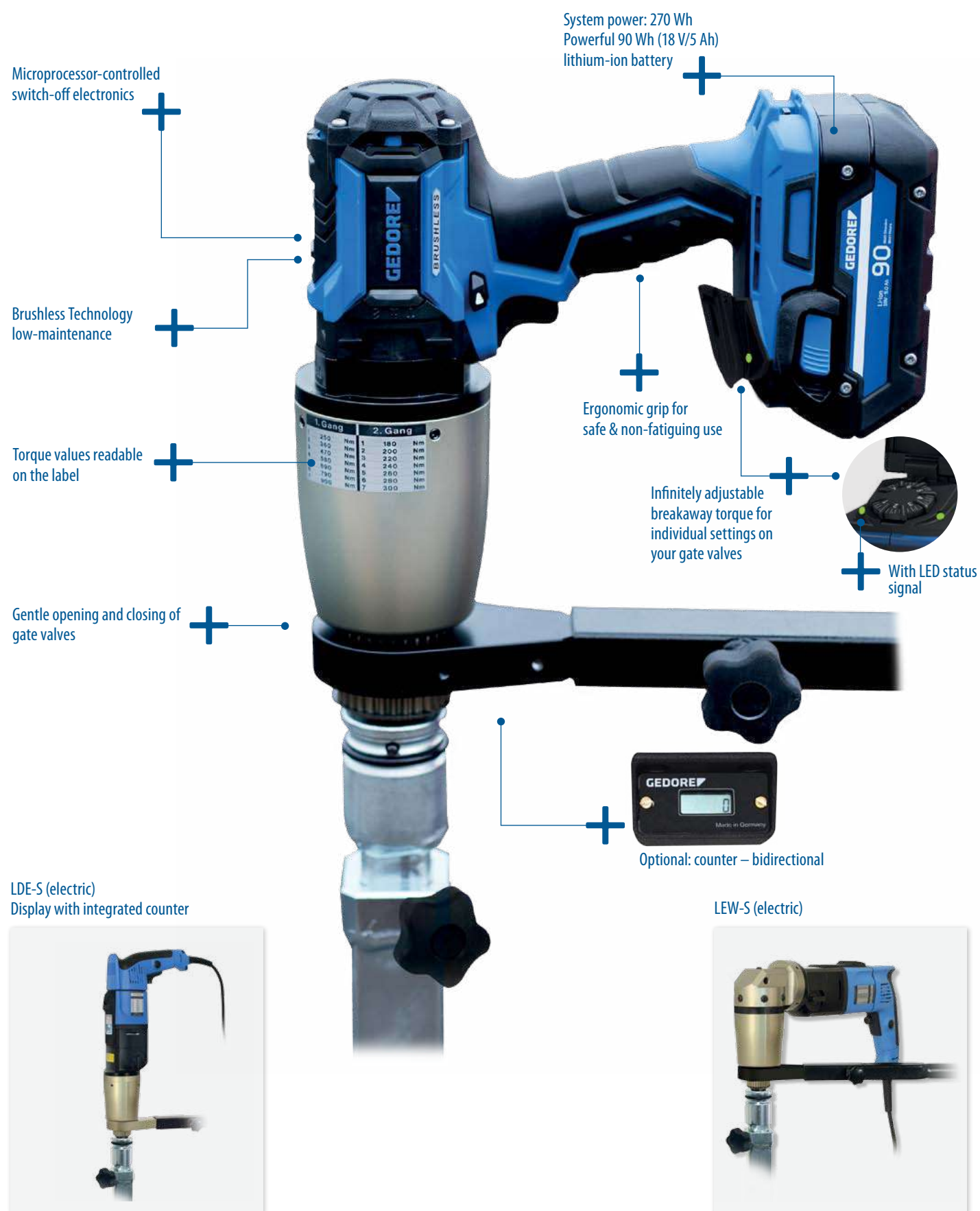


HEAVY DUTY
TORQUE WRENCH
LHD



THE GATE VALVE WRENCHES

SERIES LDA-S, LDE-S, LEW-S



Open every gate valve with these tools

Our gate valve wrenches are derived from the development of precision torque wrenches. Once again, unnecessary weight has been saved in this new generation. At the same time, the mountings of the moving parts in the rugged planet gear unit were improved, leading to an enormous increase in service life of the entire machine.

Impact-free and accident-free work, even with difficult gate valves

Our gate valve wrenches work fast and reliable. The electronically infinite torque settings and the soft start-up behaviour of the motor make an unexpected tearing away of the gate valve spindle impossible.

Optimal working weight of just 3.9 kg with a breakaway torque of over 900 Nm

Our gate valve wrenches are consistently weight-optimised without losing any operating comfort or the necessary safety. The complete motor unit can be rotated through 360° in all models and adapts comfortably to your application. The reaction forces are securely accommodated by the device. The operator can easily open even jammed gate valves.

Various drive systems for flexible applications

The gate valve wrenches are available with electric or cordless power systems. Determine for yourself about the gain in output, safety, flexibility and time when opening/closing your gate valves in your pipe network.



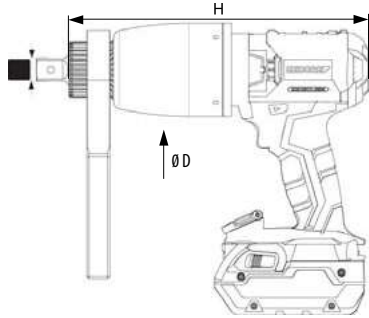
SERIES LDA-S

Robust battery technology for gate valve wrenches

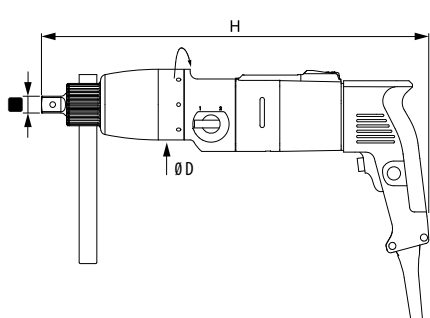
The cordless gate valve wrench battery equipment is a real highlight under the gate valve wrenches. Battery-operated but just as strong as a mains-based AC wrench, it provides a powerful breakaway torque of max. 900 Nm. Even with this design, the torque can be reduced during operation without reducing the speed until the best possible security is achieved for the gate valve and the operator.

Flexible maintenance work and pipe network maintenance

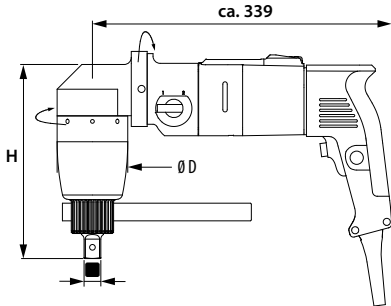
From now on, you can work with your gate valve wrench whenever you want, wherever you want and as long as you want to. Our gate valve wrenches work with lithium-ion technology (Li-Ion) instead of conventional nickel-cadmium batteries (Ni-Cd). By characteristic these offer 100 % more operating time per charge when compared to Ni-Cd batteries. This provides you with peak performance during the entire usage time without loss of speed or torque.





LDA-S – battery-operated



LDE-S – electric straight version



LEW-S – electric angled version

| Typ | ~ N·m max ^{*1} | ~ lbf·ft max ^{*1} | ~ U/min |  | Ø D mm | H mm |  kg ^{*2} |
|----------|-------------------------|----------------------------|---------|---------------------------------------------------------------------------------------|--------|------|--------------------------------------------------------------------------------------------------------|
| LDA-05S | 500 | 370 | 46 | 3/4" | 80 | 255 | 3.3 ^{*3} |
| LDA-07S | 700 | 520 | 29 | 3/4" | 80 | 287 | 3.9 ^{*3} |
| LDA-09S | 900 | 670 | 23 | 3/4" | 80 | 287 | 3.9 ^{*3} |
| LDE-075S | 770 | 570 | 25 | 3/4" | 80 | 440 | 5.1 |
| LDE-09S | 900 | 670 | 17 | 3/4" | 80 | 440 | 5.2 |
| LEW-09S | 900 | 670 | 18 | 3/4" | 80 | 220 | 6.5 |

^{*1} Breakaway torque in 1st gear ^{*2} Without reaction arm ^{*3} With Battery: 740g Other torques on request Vibration is less than 2.5 m/s²
The continuous sound pressure as per DIN 455635 is < 70 dB(A) All rights reserved. Subject to modifications without prior notice.

Scope of delivery

- › Device
- › Reaction arm, straight (light alloy)
- › 3x Lithium-ion battery (90 Wh/18 V/5 Ah)
- › Charger 220-240 V; 50/60 Hz or 110-120 V; 50/60 Hz for USA
- › Tool box
- › Operating manual



Optional accessories

- › Telescopic slide rod
- › Hand lever extension (approx. 800 mm long)
- › Charger with 12/24V connector (specifically LDA-S)
- › Counter – bidirectional
- › Adapter 3/4" on conical square drive; 32 or 50 mm
- › Cardan joint
- › Hand wheel adapter

*Illustration similar

THE SIDE POWER WRENCH

LES/LPS SERIES

Optimised design enables space-saving positioning parallel to the tie rod

Patented switch-off electronics protected against spray water and moisture

Infinitely adjustable torque settings with electronic overload protection



Display with integrated counter and countdown function

Patented tandem gear pulley for secure transmission of large torques up to 4800 Nm

Torque values readable on the label

Braked 360° pivoting drive unit enables simple positioning on the tie rod

Various wrench widths with reduction inserts ensure universal application options



Accessories: Hexagon adapter

| ⬡ | 36 mm | 41 mm | 46 mm | 50 mm | 55 mm | 60 mm | 65 mm | 70 mm | 75 mm | 80 mm |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 55 | • | • | • | | | | | | | |
| 60 | • | • | • | • | • | | | | | |
| 70 | • | • | • | • | • | | | | | |
| 80 | • | • | • | • | • | • | • | • | | |
| 95 | | | | | | • | • | • | • | • |



Specially developed for working on plate heat exchangers

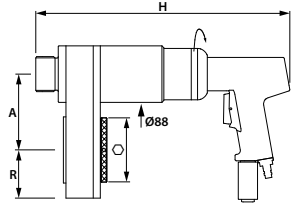
We have specially developed various series of side power wrenches in this sector for the safe assembly and disassembly of plate heat exchanger systems. They work fast and reliable, are weight-optimised and designed to be user-friendly. Regardless of whether your exchanger systems are equipped with or without thrust bearings, we have the appropriate system for all types to make your work as easy and comfortable as possible. Our side power wrenches are available with electric or pneumatic drives.



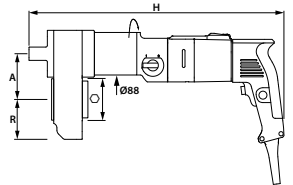
The alternative for smaller plate heat exchangers

The LES-09 model is our entry model with a torque up to 1600 Nm. These side power wrenches are impressive because of their practical and simple operation, particularly for smaller plate heat exchanger versions. High-performance aluminium ensures lower weight and the rotating hand grip adapts individually to the requirements of the user. The enormous bolting speed that is characteristic. The set includes a hexagon adapter for the next smallest wrench width, including the holder for attaching the adapter to the basic unit.

Technical data



LPS - pneumatic



LES - electric

| Type | ~ N·m max ^{*1} | ~ lbf·ft max ^{*1} | ~ U/min ^{*2} | ⬡ mm | A/R mm | H mm | ⚖ kg ^{*3} |
|-----------|-------------------------|----------------------------|-----------------------|------|--------|------|--------------------|
| LPS-1/60 | 3000 | 2200 | 7 | 60 | 112/61 | 396 | 10.0 |
| LPS-1/80 | 3600 | 2650 | 5 | 80 | 118/75 | 396 | 12.0 |
| LPS-1/95 | 4800 | 3500 | 4 | 95 | 135/95 | 396 | 13.0 |
| LES-16/60 | 3000 | 2200 | 7 | 60 | 112/61 | 503 | 11.1 |
| LES-16/70 | 3600 | 2650 | 5 | 70 | 118/75 | 503 | 11.7 |
| LES-16/80 | 3600 | 2650 | 5 | 80 | 118/75 | 503 | 11.7 |
| LES-16/95 | 4800 | 3500 | 4 | 95 | 135/95 | 503 | 13.6 |
| LES-09/55 | 1600 | 1180 | 13 | 55 | 86/75 | 480 | 10.0 |
| LES-09/60 | 1600 | 1180 | 13 | 60 | 86/75 | 480 | 9.8 |

^{*1} Series LES: Breakaway torque in 1st gear
^{*1} Series LPS: Breakaway torque at 7 bar

^{*2} Series LES: Maximum speed in 2nd gear
^{*2} Series LPS: Maximum speed at 7 bar

^{*3} Without reaction arm
All rights reserved. Subject to modifications without prior notice.

Scope of delivery

- › Device
- › 1x Hexagon adapter
- › 1x Holder
- › Tool box
- › Operating manual



Optional accessories LES/LPS

- › Hose (4 m, only LPS)
- › Maintenance unit (only LPS)
- › Further hexagon adapter
- › Further holder



THE RAILWAY TORQUE WRENCH

LDB SERIES

Select the rail system directly on the large, illuminated 3.5" LCD colour display with impact-resistant macrolon screen



Optional: Documentation module TRACK



Low-wear, brushless DC drive with 16 kW maximum output

Maximum breakaway torque 1100 Nm



Supplied with individual GEDORE factory calibration certificate

Change of direction right on the handle

Robust, lockable 48 V lithium-ion battery. For approx. 1400 bolts on new W-rail system

Additional handles, variable attachment



Watch our LDB-video - see for yourself!

Scope of delivery

- › Device
- › Reaction arm (light alloy) with lock on function
- › 2x Lithium-ion batteries (600 Wh/48 V/12,5 Ah)
- › Charger 100–260 V; 45–70 Hz
- › Operating manual
- › Factory calibration certificate



Optional accessories

- › Transport case for two devices
- › Universal impact socket IF 3/4" and special impact sockets
- › Drill adapter with various inserts
- › Rapid charger for lithium-ion battery
- › Module LB.TRACK
- › Operation set for single railway track trolley



*Illustration similar

A complex task

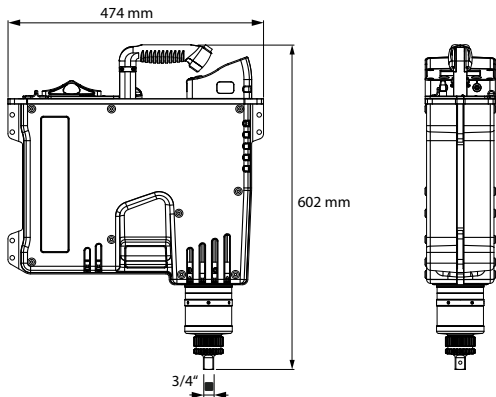
On behalf of and in close cooperation with the DB Bahnbau Group, we have found a compact and efficient answer to the complicated and sweaty track work. The universal railway torque wrench LDB-10 is battery-operated with an operating weight of less than 20 kg, which is designed for bolting applications. In addition to the possibility of bolting to insulation joints (150-1,000 Nm), all common superstructures are stored in the LDB (W-roadbed, KS-roadbed, K-roadbed).

In 2017 the LDB-10 was released as one of the first tools from the 1 % and 5 % prescribed-check (valid for Deutsche Bahn) in accordance with RIL 824.5050 Z01.

Flexible use is the feature of a universal talent

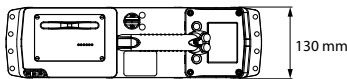
- › The LDB-10 can be used for tightening and loosening horizontal bolts for insulated rail joints, fishplate joints, check rail bolts, track switch bolts etc. In comparison to the impact wrench, each bolt is opened.
- › It can be held perfectly balanced in the hand of the operator thanks to the ergonomic, height-adjustable handle. Two handles that can be mounted at variable heights allows the operator to adapt the device depending on the current type of work.
- › The universal railway torque wrench weighs only 17.2 kg, a fraction of conventional machines and can easily be operated and moved by one operator.

Technical data



LDB - battery operated

More information about documentation modules see pages 54/55



| Type | ~ Nm max ^{*1} | ~ lbf-ft max ^{*1} | ~ U/min | ■ | L mm | B mm | H mm | kg ^{*3} |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------|---------|------|------|------|------|------------------|
| LDB-10 | 150-1100 | 110-810 | 160 | 3/4" | 410 | 130 | 420 | 17.2 |
| ^{*1} Breakaway torque ^{*2} Without reaction arm, without impact socket, with battery. All rights reserved. Subject to modifications without prior notice. | | | | | | | | |

| Type | C _N | U | L mm | B mm | H mm | kg |
|---------------------|----------------|---------|------|------|------|-----|
| Lithium-ion battery | 10 Ah | 48 V DC | 178 | 130 | 337 | 4.6 |

| Type | Input voltage | Output voltage | P | L mm | B mm | H mm | kg | Charging time |
|--------------------------|------------------------|-----------------|-------|------|------|------|------|----------------|
| Charger with mains cable | 100-260 V / 45-70 HzWh | 48 V DC / 1.6 A | 100 W | 218 | 121 | 55 | 1.35 | approx.. 4.6 h |

IEC C14 connector, Protective insulation Protection class I (DIN EN 61140)

- › Alongside bolting, the LDB-10 can also be used to drill sleepers using a suitable drilling adapter.
- › Environmentally-friendly battery operation ensures zero-emission working. Advantage: Can be used in tunnels. This tool can be operated during the night as its noise levels are considerably lower than with other drives.
- › The torque no longer has to be set on the LDB-10. The operator simply has to select the type of rail system from a pre-configured menu. The corresponding torques and bolting speeds have been pre-entered at the factory. The correct setting can be made quickly. And above all: Damages on the sleepers and bolts can be easily avoided.
- › The LDB-10 can also be equipped with a universal impact socket. With this socket, both clip bolts (hexagon 39 mm) and sleeper bolts (square 21/28) and even fishplate bolts (hexagon 41 mm) can be torqued. W-, KS-, K-rail and track switches can be torqued without that tools has to be changed.
- › The quality of each single bolt connection must be verified in line with increasing demands on safety and quality. The LDB-10 has been designed with this in mind and stores the type of rail track system, the time of bolting, the torque and the correct tightening. The memory saves up to 50 000 bolting operations and can be conveniently read out on the PC (documentation optional).
- › As one of the first tools the LDB-10 was released from the 1 % and 5 % prescribed-check (valid for Deutsche Bahn). User companies thus save resources and costs to a considerable extent.



THE HEAVY DUTY TORQUE WRENCH

LHD SERIES



Scope of delivery

- › Device
- › Reaction arm cranked with lock on function made of chrome vanadium steel
- › Powerbox 180–264 V AC / 47–63 Hz
- › Tool trolley
- › Operating manual
- › Factory calibration certificate



Optional accessories

- › Module LD.TRACK, LD.QS

The new heavy duty screwdriver up to 7500 Nm

The new torque wrench, combining power and speed: more than twice as fast as other suppliers - for a faster insertion bolt by bolt. Reliable operation in all weathers.

The built-in, low-maintenance brushless technology (brushless, low-wear DC drive) ensures a longer tool life.

Proven system process with digital colour display

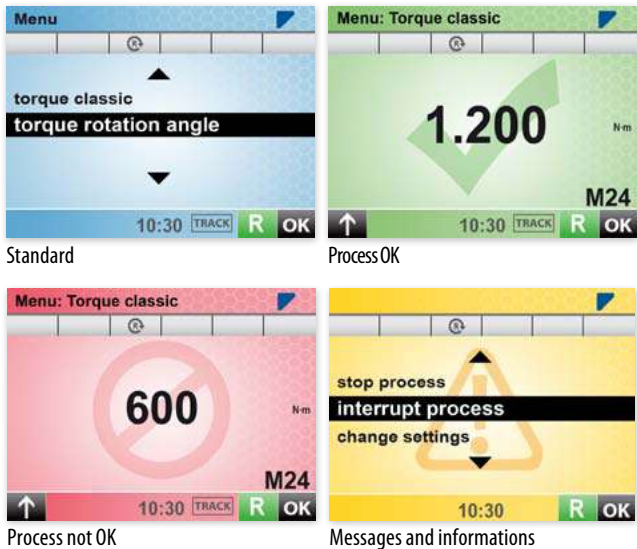
For maximum precision, the LHD offers an visual and acoustic zero-defect strategy: a sunlight-readable, digital colour display displays the entire workflow visually; in addition, an acoustic signal sounds as soon as the set value is reached. (Further information on page 16)

Bolting software for data logging and quality assurance archiving

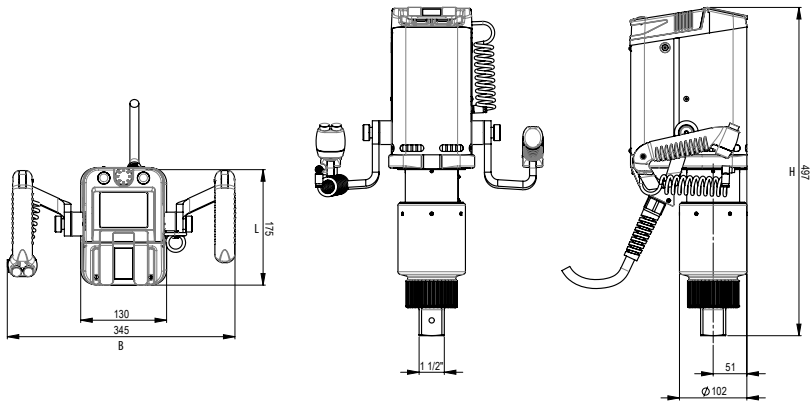
The logging of more than 10,000 bolted connections is possible with the optional available module TRACK. With the optional QS module, any number of bolted connections can be defined and stored. This greatly simplifies work on the construction site and reduces the time required.

Powerbox + accessory case for cable

Due to strong voltage fluctuations it is difficult to use electrically torque wrenches with the required accuracy. With the LHD heavy duty torque wrench, this is avoided by a voltage conversion using our power box - this way the device is always provided with the necessary voltage for proper function.



Technical Data



| Type | ~N·m min/ max | ~ lbf·ft min/ max | ~ U/min | ■ | Ø D mm | L mm | B mm | H mm | kg |
|--------|------------------|----------------------|---------|-----|--------|------|------|------|------|
| LHD-75 | 800 - 7500 | 590 - 5530 | 10,3 | 1½" | 102 | 175 | 345 | 497 | 14.6 |

Protection: IP54 Further torque ranges on request.

| Type | Input voltage | Output voltage | P | L mm | B mm | H mm | kg |
|----------|-------------------------|----------------|---------|------|------|------|-----|
| Powerbox | 180–264 V AC / 47–63 Hz | 48 V DC | 3.000 W | 380 | 445 | 160 | 9.4 |

Protection: IP33 Protection class II

More information about documentation modules see pages 54/55

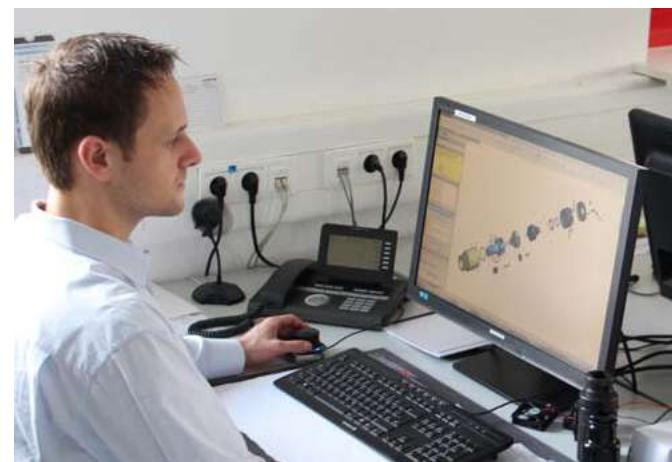


YOUR SPECIALIST IN HIGH LEVEL TORQUE BOLTING TECHNOLOGY



From pioneer to high-tech centre

For more than 45 years, we have represented quality and innovation in all areas of bolting technology. A range manufactured on almost 100 %, state-of-the-art machining centres ensures the outstanding quality and precision of our torque wrenches. The difference is simply in the detail. Our machines are Made in Germany.



We develop the torque wrenches for your future

Our specialists develop your torque wrenches with state-of-the-art construction and analysis methods (CAD/CAM/FEM). If a suitable solution is not available in our product range, we can design a specifically customised solution for you. Your applications are our challenge.



Precision testing before shipping

In our own calibration laboratories, all dynamic devices are precisely measured and configured before they are sent to you. The torque deviation is usually significantly under 3% for identical bolting operations. The individual factory calibration certificate is the confirmation that is required by every QM system as per DIN EN ISO 9001:2008.

CONSULTATION AND TRAINING BY SPECIALISTS



Always the right solution for you

Our experts can advise you on site and analyse your application with you in order to offer the appropriate system. Our extensive range of products, offers you the professional solution required.

In-house training

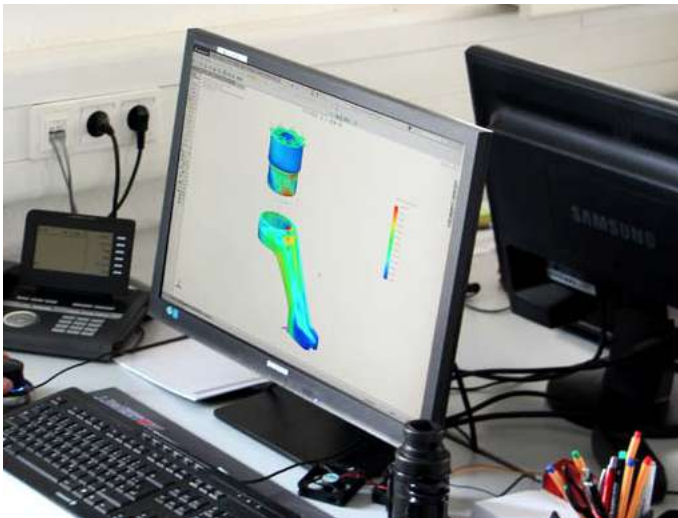
Customer safety instructions and training courses are available at our in-house training centre. Every participant is subsequently issued with a certificate as verification of training.



SPECIAL REACTION ARM VERSIONS

The reaction arm of a high-torque wrench is one of the most important components on the device. It absorbs all reaction forces produced during bolting operations. It therefore has to be stable. In addition, reaction arms require a place in their surroundings where they can support themselves. Therefore, they not only need to be stable, but also suitable for a variety of environments.

As bolts can be located anywhere, it is possible that the standard reaction arm does not always fit and only a custom design will correctly absorb the reaction force. We specialise in the design of custom reaction arms. Custom reaction arms can be built and force effects simulated (FEM) in our own development department in Vaihingen/Enz.



Special reaction arms



THE FACTORY CALIBRATION CERTIFICATE

Factory CALIBRATION CERTIFICATE

for Battery torque wrench

Date: 10.03.2018
Type: LDA-22
Serial No: DA09.00107
Inventory No:
Model Year: 2018

Manufacturer: GEDORE
Inspector: Max Mustermann
Temperature: 23,1 °C
min. torque: 250 Nm
max. torque: 2180 Nm
Tolerance: 5 %

Bolting Adapter:
M20x90: II 1-3
M24x120: I 1, II 4-7
M30x130: I 2-4
M36x130: I 5-7

| MEASURED VALUES 1. Gear | | | | | | | | | | | [Nm] | | | | EVALUATION | | | |
|-------------------------|------|------|------|------|------|---|---|---|---|----|------|--------|----------|-----------|------------|--|--|--|
| Set. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Ave. | % Dev. | 95% Val. | 105% Val. | Sensor | | | |
| 1 | 860 | 857 | 854 | 853 | 860 | | | | | | 857 | 0,38 | 814 | 900 | | | | |
| 2 | 1407 | 1362 | 1383 | 1359 | 1392 | | | | | | 1381 | 1,47 | 1312 | 1450 | | | | |
| 3 | 1824 | 1837 | 1849 | 1835 | 1784 | | | | | | 1826 | 1,37 | 1735 | 1917 | | | | |
| 4 | 2149 | 2213 | 2208 | 2224 | 2177 | | | | | | 2194 | 1,40 | 2084 | 2304 | | | | |
| 5 | 2500 | 2490 | 2500 | 2478 | 2509 | | | | | | 2495 | 0,47 | 2371 | 2620 | | | | |
| 6 | 2777 | 2852 | 2812 | 2827 | 2823 | | | | | | 2818 | 0,97 | 2677 | 2959 | | | | |
| 7 | 3207 | 3237 | 3165 | 3210 | 3182 | | | | | | 3200 | 0,86 | 3040 | 3360 | | | | |

| MEASURED VALUES 2. Gear | | | | | | | | | | | [Nm] | | | | EVALUATION | | | |
|-------------------------|------|------|------|------|------|---|---|---|---|----|--------|--------|----------|-----------|------------|--|--|--|
| St. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mittel | % Abw. | 95% Wert | 105% Wert | Sensor | | | |
| 1 | 346 | 343 | 352 | 342 | 345 | | | | | | 346 | 1,11 | 329 | 363 | | | | |
| 2 | 533 | 524 | 532 | 544 | 532 | | | | | | 533 | 1,34 | 506 | 560 | | | | |
| 3 | 621 | 636 | 618 | 619 | 636 | | | | | | 626 | 1,44 | 595 | 657 | | | | |
| 4 | 771 | 788 | 798 | 787 | 786 | | | | | | 786 | 1,23 | 747 | 825 | | | | |
| 5 | 865 | 873 | 884 | 877 | 886 | | | | | | 877 | 0,97 | 833 | 921 | | | | |
| 6 | 986 | 981 | 997 | 988 | 1018 | | | | | | 994 | 1,44 | 945 | 1044 | | | | |
| 7 | 1108 | 1104 | 1089 | 1089 | 1122 | | | | | | 1102 | 1,26 | 1047 | 1158 | | | | |

Sensor data sheet (in order to their appearance):
1: Torque Sensor, Lorenz Messtechnik D-2271, SN: 102552, 15000 Nm
2: Torque Sensor, Lorenz Messtechnik D-2268, SN: 104305, 2000 Nm
All measured values in this document are executed with a regular proofed calibration equipment.
So that the lead back to ISO 9000 ff are guaranteed.

LPU: 201101171

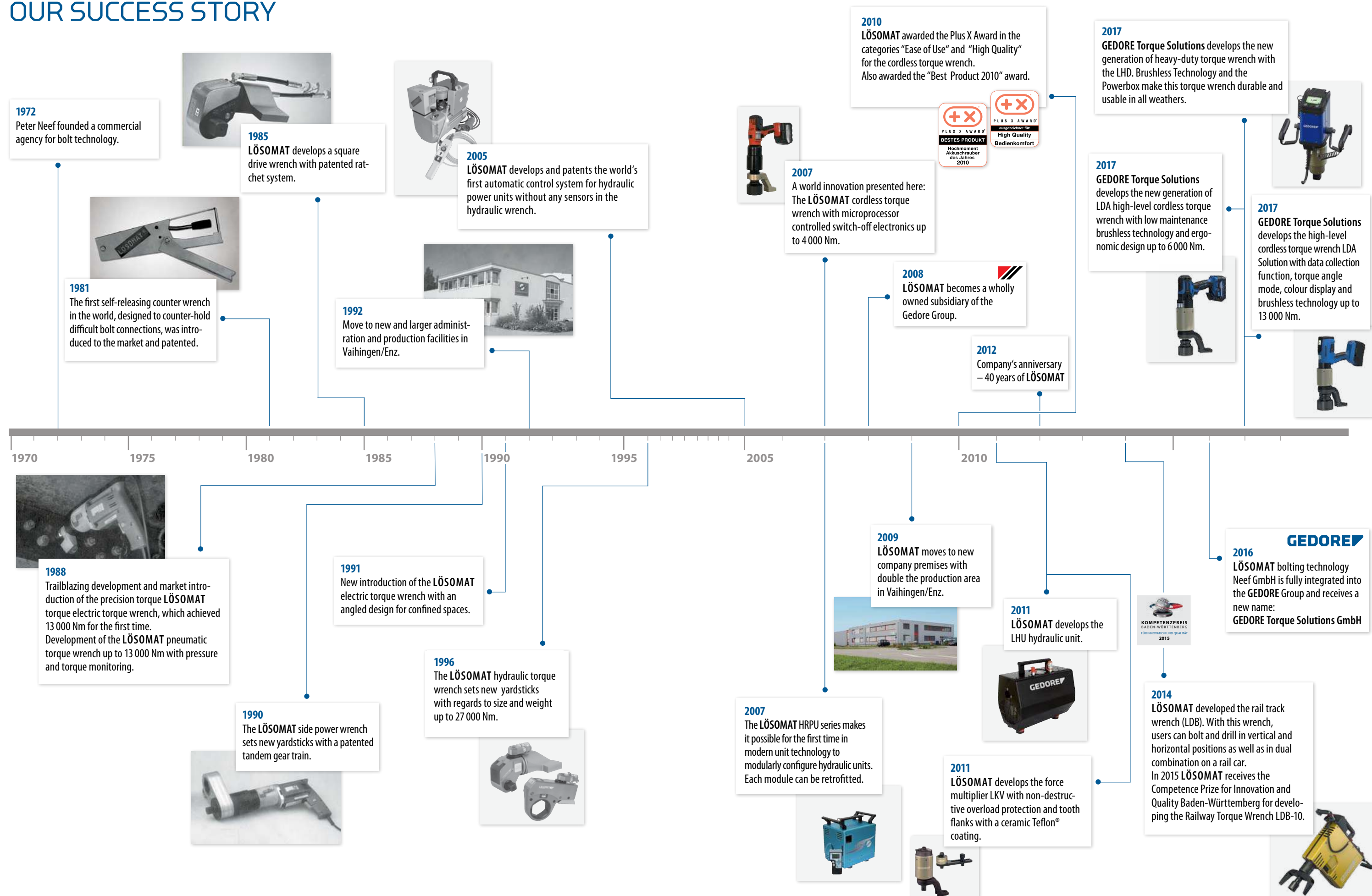
- 1 Secure DataMatrix Code
- 2 Individual factory calibration certificate for every planetary gear torque wrench with individual serial number for clear identification
- 3 Transparency and safety results from deviation data taking the efficiency into consideration
- 4 Various languages available on request
- 5 Three to five complete measurement series per torque level depending on the device type
- 6 The torque values are duplicated on the tool label:

| 1. GANG 1. GEAR 1. VITESSE | | | 2. GANG 2. GEAR 2. VITESSE | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|------------------------------------------------------------------------------------------------------|------|----|
| 1 | 857 | Nm | 1 | 346 | Nm |
| 2 | 1381 | Nm | 2 | 533 | Nm |
| 3 | 1826 | Nm | 3 | 626 | Nm |
| 4 | 2194 | Nm | 4 | 786 | Nm |
| 5 | 2495 | Nm | 5 | 877 | Nm |
| 6 | 2818 | Nm | 6 | 994 | Nm |
| 7 | 3200 | Nm | 7 | 1102 | Nm |
| GEDORE Ser.-Nr. DA09.00107 GEDORE Torque Solutions GmbH Bertha-Benz-Str. 12 71639 Vaihingen/Enz T. +49 70 42 / 94 41-0 Made in Germany | | | GEDORE Mj. 2018 Pmax. 560W TYP LDA-22 C€ www.gedore-torque-solutions.com Made in Germany | | |

Individual factory calibration certificate for all planetary gear torque wrenches in the series: LDA/LAW, LDE/LEW, LPK/LPK-X, LKV, LDB and LHD
Tested on standard or original bolts.
We recommend annual tool calibration of the devices, a new factory calibration certificate can be issued following this inspection if required.



OUR SUCCESS STORY



A SELECTION OF OUR CUSTOMERS AND THEIR PRODUCTS



Donges SteelTec GmbH

Donges SteelTec GmbH is a member of the Mutares Group and is one of Germany's leading steel construction companies with approximately 200 highly qualified employees. The Darmstadt-based company operates nationally and internationally. The focus is on steel bridge construction and steel building construction. (Source: Donges SteelTec GmbH)



LDA



LDH



LHM



Putzmeister Holding GmbH

Putzmeister develops, produces, sells and serves its customers worldwide with technically high-quality and service-oriented machines in the areas of concrete delivery, truck-mounted concrete pumps, stationary concrete pumps, placing booms and accessories, plant engineering, pipe conveying of industrial viscous materials, concrete paving and overburden conveying in tunnels and underground, robot and handling technology, mortar machines, plastering machines, screed conveying, injection and special applications. (Source: Putzmeister Holding GmbH)



LDA



LPK



LDE



LKV



LDH



LHM



thyssenkrupp Industrial Solutions AG

ThyssenKrupp Fördertechnik is one of the world's leading suppliers of machines, plants and systems for the extraction, processing and handling of raw materials. In open-cast mining and quarries, in port terminals, coal-fired power stations and in storage areas, ThyssenKrupp Fördertechnik systems are in use worldwide and continue to set new standards. (Source: thyssenkrupp Industrial Solutions AG)



LDA



LPK



LDE



LEW



LDH



LHM



API Schmidt-Bretten GmbH & Co. KG

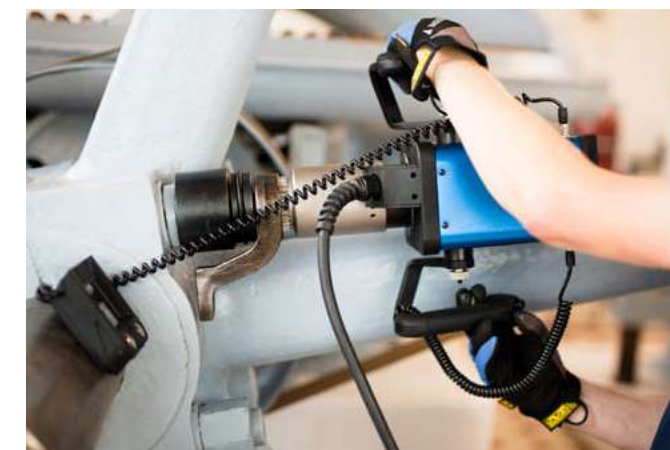
API Schmidt-Bretten is a worldwide recognized manufacturer of gasketed and welded plate heat exchangers and systems for the thermal treatment of pumpable media in all major markets. (Source: API Schmidt-Bretten GmbH & Co. KG)



LES



LPS



GEDORE TORQUE SOLUTIONS GMBH WORLDWIDE

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CAPTIONS



Company, Services, More



Cordless Torque Wrench



Electric Torque Wrench



Pneumatic Torque Wrench



Hydraulic Solutions



Manual Solutions



Bolting Software



Torque Testing Bench Technology



Special Solutions



Weight



Square drive (internal)



Square drive (external)



Hexagonal socket drive (internal)



Input torque



Output torque



Transmission ratio



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