

KTC[®]
KYOTO TOOL CO., LTD.

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ISO 9001



ISO 14001



KTC

SELECT THE NO.1 TOOLS OF THE WORLD

No. **38**

KTC[®]
KYOTO TOOL

SELECT THE NO.1 TOOLS OF THE WORLD



38

■ For Safe Use of Your Tools

In order to satisfy our customers, **KTC** is striving to improve safety and product quality. So you may use our products in the safest possible manner we have prepared a list of safety notices. Please read these carefully before use.



Caution

Products shown in this catalog
Safety notices apply to all products.

- Do not use the tools for any purpose other than the intended purpose. (Fig. 1)
- If breaks, cracks, abrasions or deformities become apparent, stop using the tool. (Fig. 2)
- Do not use the tool in an unsafe manner. Make sure you have a good footing and maintain your balance. (Fig. 3)
- Do not attempt to modify the tool. The application of heat or any modification process may greatly reduce the quality of the product. (Fig. 4)
- Where an instruction manual is included, be sure to read it before using the tool.



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Any other safety warnings are displayed at the beginning of each manual, or alongside the item in this catalog. There are also warnings in the hand tool guide. These should be read in conjunction with other warnings.

Meaning of Symbols



Warning

Improper use may result in death or serious injury to the user.



Caution

Improper use may result in injury to the user or damage to the tool.

Meaning of Symbols

- Unit as shipped from the factory
- When ordering, please check availability of stock
- Product weight by unit.
- Powerfit symbol
- WxDxH Width x Depth x Height
- This model has been changed
- Successive model is displayed

Caution & Request

- Products displayed in this catalog are current as at November 2014.
- To allow for product improvements, the shape, size and color of products may change without notice.
- As the pictures in the catalog are printed, actual shades of color may differ.
- Unless otherwise specified, measurements are in millimeters.

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TOOL SETS



CONVENTIONAL TOOLS



MEASURING and INSULATED TOOLS



POWER TOOLS



AUTOMOTIVE SPECIAL TOOLS



OTHER TOOLS and EQUIPMENT



MOTORCYCLE TOOLS



PLUMBING TOOLS



TOOL STORAGE



11 1. TOOL SETS

45 2. CONVENTIONAL TOOLS

- 50 SOCKETS and DRIVE TOOLS
- 78 IMPACT SOCKETS and ACCESSORIES
- 93 HEXAGONAL WRENCHES
- 106 TORX® WRENCHES
- 118 BOX END WRENCHES
- 125 OPEN END WRENCHES
and COMBINATION WRENCHES
- 131 PROFIT® TOOLS
- 133 HANDLE WRENCHES
- 135 SCREWDRIVERS
- 146 PLIERS, CUTTING PLIERS, SHEARS
- 154 LOCKING PLIERS
- 157 PROSNIP®
- 158 HAMMERS, CHISELS, and PUNCHES
- 162 SCRAPERS, FILES and BRUSES
- 167 ADJUSTABLE WRENCHES, PIPE WRENCHES
and GEAR PULLERS

173 3. MEASURING and INSULATED TOOLS

- 174 DIGITAL TORQUE WRENCHES
- 188 TORQUE WRENCHES
- 191 GAUGES
- 194 INSULATED TOOLS

199 4. POWER TOOLS

- 200 AIR IMPACT WRENCHES
- 204 ELECTRIC IMPACT WRENCHES

207 5. AUTOMOTIVE SPECIAL TOOLS

- 209 ENGINE
- 234 DRIVELINE SYSTEM
- 237 STEERING SYSTEM
- 250 SUSPENSION SYSTEM
- 254 TIRE & WHEEL
- 262 BRAKE SYSTEM
- 277 ELECTRIC SYSTEM
- 284 BODY

299 6. OTHER TOOLS and EQUIPMENT

- 300 AUTOMOTIVE MAINTENANCE ACCESSORIES
- 305 LIGHTS

309 7. MOTORCYCLE TOOLS

- 310 MOTORCYCLE TOOLS
- 315 CYCLE TOOLS

321 8. PLUMBING TOOLS

- 322 PLUMBING TOOLS

329 9. TOOL STORAGE

- 331 TOP CHEST
- 335 ROLLER CABINET
- 337 TOOL STATION, WAGON,
and WALL HUNGING CASE
- 343 SPLIT-OPEN and TOP OPENING TOOL CASE
- 345 ACCESSORIES

1. TOOL SETS

11

2. CONVENTIONAL TOOLS

45

3. MEASURING and INSULATED TOOLS

173

4. POWER TOOLS

199

5. AUTOMOTIVE SPECIAL TOOLS

207

6. OTHER TOOLS and EQUIPMENT

299

7. MOTORCYCLE TOOLS

309

8. PLUMBING TOOLS

321

9. TOOL STORAGE

329

All about KTC

- 3 KTC Brand story
- 4 About KTC's after sales service system

- 193 Basic Knowledge of tools^③ Torque
- 222 Basic Knowledge of tools^④ About the LLC

- 39 Basic course in hand tools part1.
- 168 Basic course in hand tools part2.
- 250 Cautionary points on handling the spring compressor

- 208 Mechanism of Engine
- 233 Driveline System Mechanism
- 236 Steering System Mechanism
- 249 Suspension System Mechanism
- 253 Tire & Wheel Mechanism
- 260 Brake System Mechanism
- 276 Electric System Mechanism
- 283 Body Mechanism

- 348 Index



21C VERSION TOOLS



KTC Brand story

A legacy of pursuing high quality handed down from the men who drew their passion from making tools to service Zero fighter planes

To trace the source of the passion that is inside KTC tools, one must return to 1939, before KTC was founded.

At that time, "Kyoto Machinery", a textile machinery maker that could be considered the forerunner of KTC, was taking the initiative in making high performance, highquality tools for servicing Zero fighter planes which had clearly surpassed world standards. A passion for tool making in response to the mission to "produce high quality tools" - this could be called the true source of KTC manufacturing.

However, it was not only the Zero fighter planes that drove their passion for the tools.

They were amazed by the superior functionality of the American made socket wrench that they had been shown as a war trophy from the battle of Midway, making them firmly determined to catch up and surpass its quality of it.

This lead to their stubborn insistence on pursuing only high quality steel materials, even in the times of scarcity that followed immediately after the war.

Then in 1950, the "KYOTO TOOL CO., LTD." was established by the three men who acquired a heart for uncompromising research for technological innovation and a spirit of craftsmanship that pursued the highest levels of quality, while they were forming their passionate ideas about tool making.

The turning point came in the month following the company's establishment, before they had even had time to organize their production system.

There was an enquiry regarding a delivery of tools to be included with vehicles from Toyota Automotive Sales, which had just become independent from Toyota Motor Co. Ltd. As the delivery of onboard vehicle tools to Toyota started, the production volume of automobiles, mainly trucks, grew rapidly and so did the production volume of tools.

After that KTC rode a wave of motorization and won the rank of No.1 in Japan for number of items and volume of production.



About KTC's after sales service system

After sales service

KTC provides the following after sales service and information service, allowing customers to purchase and use our products with confidence.

1 For inquiries regarding our products Contact details for product inquiries

Customer center

TEL+81-774-46-3717
FAX+81-774-46-3768
e-mail:support@kyototool.co.jp

* Telephone inquiries: 9:00 am to 12:00 pm, 1:00 pm to 5:00 pm
 (excluding Saturdays, Sundays, public holidays and company holidays)

KTC home page

<http://en.ktc.co.jp/>

Introducing new product information, product catalogs, instruction manuals, sales information and product dealers. For more information, please visit our website.

2 After sales service

Parts supply service Sales of maintenance parts that can be replaced and repaired by customers.

Repair service Charged repair service for goods to be repaired in accordance with our company regulations. (Parts cost, repair cost, freight cost will be charged.)

Calibration service We calibrate measurement instruments such as a torque wrench and issue certificates of calibration for a fee. For more information, please refer to P.159.

*1 Requests to be made at the product dealer's store.

*2 Supply of some parts may be restricted due to safety / quality control reasons.

3 Quality assurance

In case if our product with the KTC or NEPROS mark has lost functionality due to material or manufacturing problems, or where the plating has come off other than by wear, we will repair or replace the product with an equivalent product.

* The following items are not eligible for our quality assurance

- Consumables - Products that use wearable parts, such as the inward turning tools (screw driver, hexagon head screw driver and TORX® driver), pliers (nippers, pliers and pinchers), and gears. Also other products that constantly wear as they age.
- Damage that is caused by any other factors than problems in the product material and manufacturing process. Damage that is caused by inappropriate use or negligence.
- Wear, breakage or deformation of the product caused by hard hitting with a hammer or the like.
- Damage that is caused by repairs or modifications made by the user or a third party.
- Damage that is caused by application of an excessive load beyond the one that the product is designed for.
- Damage that is caused by fire or natural disaster.
- Damage that is caused by wear as a result of use in a production line.
- Differences due to product model change or design change

<Examples of inappropriate use>

- Wear, breakage or deformation caused by use of hand tools with power tools such as an impact wrench.
- Breakage or deformation caused by the use of couplings or pipes.

<Contact desk for quality assurance>

Please lodge your inquiry through the dealer you purchased the product from.

Fruits of technologies which create safety

DIGITAL RATCHET

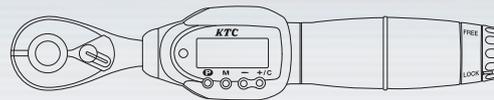
Realizes High Accuracy Torque Control with easy operation and high workability.
Breaks ground for the future of Torque Control Tools by pursuing the highest quality for functionality, operability, visibility and design.

KTC has aimed for an environment in which "everybody can conduct torque control freely" in any maintenance context or manufacturing site. Eliminates individual difference of fastening bolts · nuts, and makes torque control more familiar to realize stable quality and improvement of safety. Also pursues high quality and cost performance at the same time to bring to everyone who needs it. Apply torque control to every manufacturing site for a promise of Safety · Security · Quality.



Bring Safety called Torque Control to All People

Advanced Digital Torque Tool "Digital Ratchet" (GWE3-060 ~ GWE4-200)



STANDARD TYPE

Advanced Digital Torque Tool "Digital Ratchet" fixed grip type

Power sensor built-in fixed grip is adopted.
Higher accuracy torque measurement becomes possible regardless of work-posture and proficiency level.

MEMORQ

Advanced Digital Torque Tool Digital Ratchet [MemorQ]

New Torque Measurement History Automatic "Record · Control" tool is added to Digital Ratchet. Evolved from torque control tool to torque management system.



SCREWDRIVER TYPE

Advanced Digital Torque Tool "Digital Ratchet screwdriver type"

Measurement of minimal torque is possible with the screwdriver type torque measuring tool which is the first one in the Digital Ratchet series. Various bits as well as Cross bits can be used.



INTERCHANGEABLE HEAD TYPE

Advanced Digital Torque Tool "Head Replaceable Type Digital Ratchet"

Head Replaceable Type with wide selection of Ratchet Head, Ratchet Offset Wrench, Hex-Key Wrench and Brake Tool. Usable range is expanded greatly.



ADJUSTABLE HEAD TYPE

Advanced Digital Torque Tool "Digital Ratchet Adjustable Wrench Type"

Adjustable wrench head is mounted instead of ratchet head. Torque measurement at part where ratchet head could not be used.



Continuous evolution toward new dimensions.

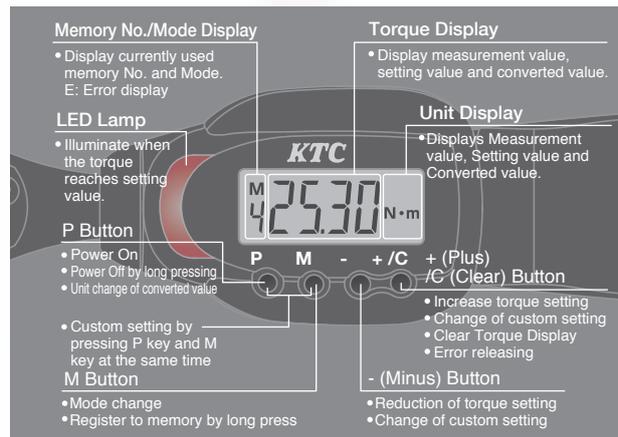
Evolution of Digital Ratchet never stops providing Safety · Security · Quality named torque control to all working scenes.



PRODUCT DESCRIPTIONS

Satisfy International Standards (ISO) with Professional Torque Measurement Function

Measurement accuracy satisfies ISO requirement ($\pm 4\%$). Large size LED Lamp is adopted to make lighting easily confirmed from positions difficult to see the display. As well, new functions are added to support diverse contexts like customizing measurement mode and display mode. Apply torque control to every manufacturing site for a promise of Safety · Security · Quality.

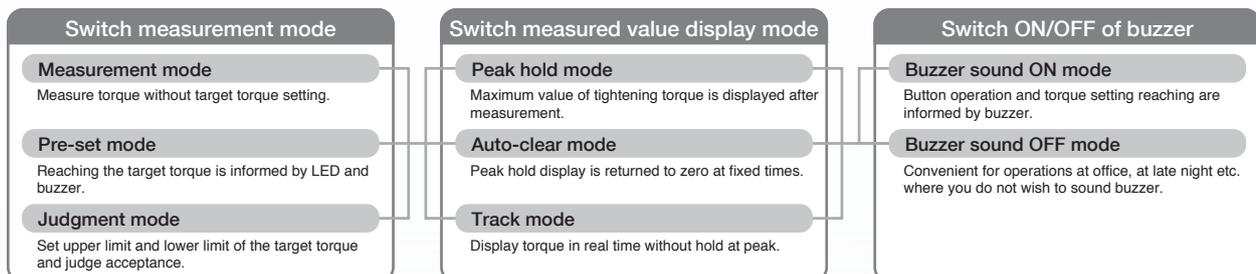


Power sensor built-in fixed grip

Mounted sensor detects operation load applied to the grip correctly and analyzes. Higher accuracy torque measurement became possible regardless of work-posture and proficiency level.



By choosing function and operation conditions, customize Digital Ratchet for yourself. By changing setting according to operation content, usability is increased.



Applicable in diverse contexts through wide head variations.

STANDARD TYPE

Digital Ratchet

Ratchet Handle Head is used.
With unprecedented easiness and high workability
High accuracy Torque Control is realized.

Advanced Torque Control Tool which is developed with a new idea combined with ratchet handle which is used by many for wide usages at maintenance sites, digital display with which torque check is easily conducted, and power sensor built-in fixed grip using cutting-edge sensor technology. High accuracy torque measurement is made possible regardless of work posture and proficiency level.



Ratchet Head with comfortable operability adopted with "Union mechanism", "integrated claw" and "36 teeth gear."

*Socket is required at use.

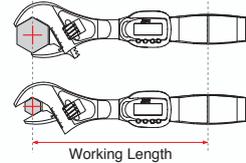
ADJUSTABLE HEAD TYPE

Digital Ratchet Adjustable Wrench Type

By adopting a newly developed adjustable head, support operation scenes in which socket wrenches cannot be used.

Adjustable Wrench Type where the Adjustable Wrench Head is mounted on a handle with Power Sensor. Exerts power in various scenes where operation with Ratchet type was difficult. Adjustable wrench head has a dedicated shape in which center position of bolt · nut is not changed even if the mouth opening dimensions changes. Since the distance between force point and rotation axis is not changed even if the size is, more accurate torque measurement is possible*.

*Torque is expressed by [distance from rotating axis to force point] x [applied force at force point]. Depending on size of bolt · nut distance from rotating axis to force point varies and correct torque measurement cannot be made.



Working length(from rotational axis of the bolt to the force applied point) hardly changes even if the opening width changes, which enables high accuracy measurement.

INTERCHANGEABLE HEAD TYPE

Interchangeable Head Type Digital Ratchet

With various replacement heads supporting diverse operation scenes.

Head replaceable type Digital Ratchet which can be used practically in diverse contexts by combining with various replacement heads. Various replacement heads are prepared, like ratchet head, ratchet offset wrench, Hex-Key wrench, break tool etc. Applicable range of torque control is expanded greatly.



By using replacement heads, it can support various operation scenes. Also, by adopting KTC's original "Union mechanism", replacement parts are held surely, and unexpected fall-off of parts is prevented.

*Union mechanism requires button operation at assembling and disassembling.

SCREWDRIVER TYPE

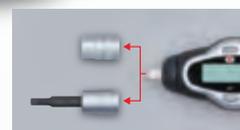
Digital Ratchet Screwdriver Type

Screwdriver type supporting minimal torque.
3 types are lined up to meet operation scenes.

Measurement of minimal torque is possible with the screwdriver type torque measuring tool which is the first one in the Digital Ratchet series. Supports diverse operation contexts which require minimal torque measurement · control like electrical facilities, electric circuit board operation, replacing cutter chips, mounting resin · aluminum parts etc. Since tip bits are magnetic attraction type, various bits can be used. After removing adapter socket, 1/4"sq. sockets and bit sockets can be used.



1/4"sq. bits can be adapted.



Adaptor can also serves 1/4"sq. Socket wrenches & Bit Sockets.

From Torque Control to Operation Management Solutions

Digital Ratchet, developed under the concept of "Bring the Safety called Torque Control to All People" has evolved further. From "Control Torque" to "Quality Assurance" and "Safety Management" by Integrated Work Managing System.

DIGITAL RATCHET [MEMORQ]



"Record · Control" measurement results

Main functions

High accuracy torque measurement

Quick and sure high accuracy torque measurement is realized.



More accurate torque measurement is realized regardless of work posture and working skill of operators by adopting power sensor built-in fixed grip.

Measurement result record · Output

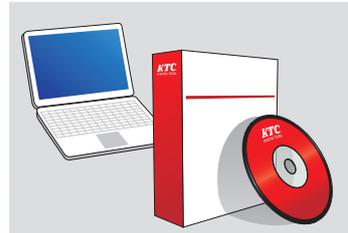
Record and data output of measurement result data is possible.



Measurement data can be recorded automatically and the data can be sent to related software. It is possible to utilize for a wide range of management.

Software · Customize

Control system can be customized according to needs.



As well as torque setting for each operation target, it also realizes blunder avoidance, tact time control etc. by operation date and time, operation start · completion setting.

"Innovation" at operation process is realized by introducing Digital Ratchet [MemorQ] as an operation record terminal.

Introduction image



Operator

- Operation Start Date and Time
- Operation Torque Value
- Operation Completion Date and Time
- ⇒ Outputs Information in Real-time

Monitor for operator

- Operation Manual
- Operation Procedure
- Torque Value etc.

Internal Business Management System

- Operation Record
- Quality Record
- Information Analysis etc.

Manager

- Operation Status Monitor
- Tact Time Control
- Progress Control
- Preparation Control

DIGITAL RATCHET [MEMORQ], which keeps operation records surely, changes working conditions at manufacturing sites.



Digital Ratchet [MemorQ] creates sure operation control and reliance by clients.

Safety can be ensured

- Screw tightening torque value is **recorded electronically**.
- Operation records like amount of production · operation hours etc. can be controlled.

Quality Assurance Level is increased.

- Utilize as **Agreed Guaranty Record** provided to customers.

Can aim for cost reduction

- 3-person operations of Fastening · Record · QA can be conducted by **1 operator**
- Function which does not allow proceeding to **the next process until the value becomes acceptance value**



Operation management solution by Digital Ratchet [MemorQ] at various sites.

Software customizing of Digital Ratchet [MemorQ] makes it possible to support various operation contexts flexibly. Bringing "innovation" to many production and maintenance sites.



Manufacturing line of products

Supports various production lines with various head variations of ratchet head, adjustable head and head replaceable type. Effective especially at cell production lines and etc.



Operation at assembling site

Needs to record operation history at assembling and construction are increasing, especially at important fastening parts (layered structure parts) and hidden parts.



Maintenance · Check

Not only checking marks, but recording data prevents skipping of checking and correctness of operation is increased. And more, implementation of operation is guaranteed.



Wheel nuts for tires

There are many accidents caused by breaking of wheel bolts of large vehicles. Most of the causes are overtightening of nuts. Safety can be provided by tightening with appropriate torque.