TOHNICHI

Professional Torque Product Catalogue

2015

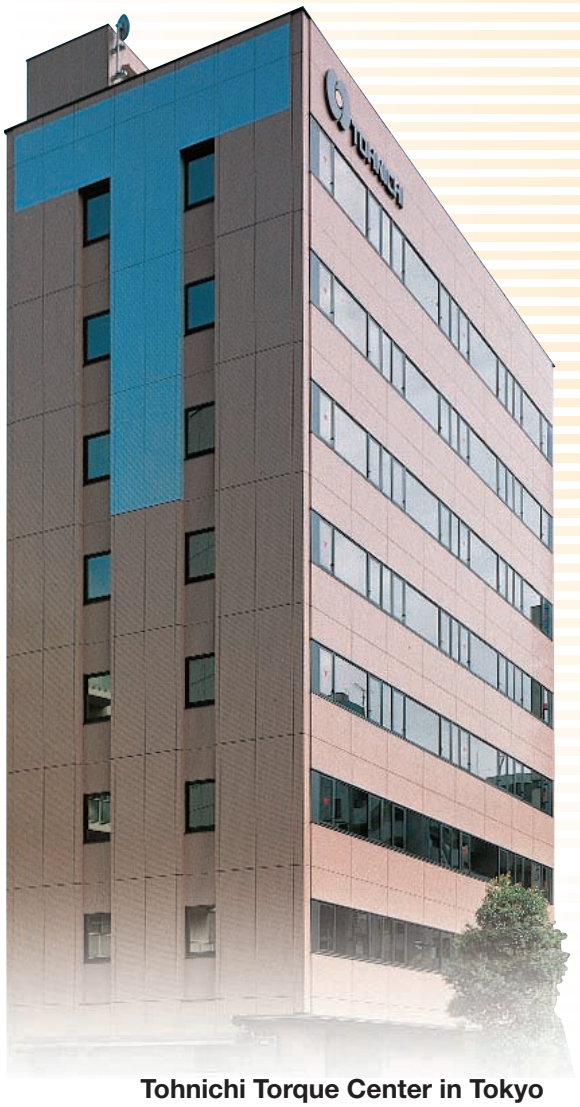
Your Torque Partner TOHNICHI

Your Torque Partner

Through advances in torque technology, Tohnichi contributes to the creation of a safer world by helping to obtain the highest level of product safety in transportation, information technology, and many other fields that affect our daily lives.

TORQUE CENTER

A wide variety of services available including: theoretical information, application assistance, training seminars, and testing facilities.



Tohnichi Torque Center in Tokyo

Laboratory

Visitors can use this space. Actual work piece is carried in and proper tightening torque can be measured.

Showroom

Tohnichi torque products are set-up and displayed so that visitor can have a clear look on what is available on the torque market and what will be coming up soon.

Lecture room

Various courses of torque engineering seminars are available.

Training room

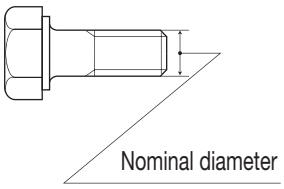
Our customers can attend workshops, covering a global training, general repair and adjustment on torque products.

The above facilities and services are available at Tokyo, Osaka, Nagoya in Japan, Tohnichi Shanghai in China, Tohnichi Europe in Belgium, and Tohnichi America in Chicago.

Contents

How to Select Torque Products (by Model)

Select the correct Tohnichi product for an application.



TORQUE PRODUCTS

TORQUE WRENCH

Nominal diameter
M4-M40

FOR TIGHTENING

Tightening bolts at a given torque

QL

Standard model for tightening

P.12

FOR INSPECTION

Inspecting the torque of tightened bolts

DB/CDB

Standard model for inspection

P.38

TORQUE SCREWDRIVER

Nominal diameter
M1.6-M6

FOR TIGHTENING

Tightening screws at a given torque

RTD/LTD/AMRD/AMLD

Rotary slip torque screwdriver (Over-torque prevention) P.6

FOR INSPECTION

Inspecting the torque of tightened screws

FTD-S/FTD

Direct reading type P.9

TORQUE GAUGE/ TORQUE METER

Measuring torque for special products

FOR MEASURING VERY SMALL TORQUE

Inspecting small torque ranging from 0.05cN·m-150cN·m

ATG/BTG

with 3-jaw chuck

P.58

FOR MEASURING CAP OPENING TORQUE

For checking torque on bottle caps, starting torque test, and twisting torque, etc.

TM

Analog type P.60

If other types of head is requested

CL

Interchangeable head version of QL P.13

In such working condition where resin handles are not suitable

QL-MH

Metal handle version of QL P.12

CL-MH

Metal handle version of CL P.13

If tightening at one particular torque only

QSP

Preset version of QL P.18

CSP

Interchangeable head version of QSP P.19

If tightening the same bolts at particular torque only

SP **SP-MH** **RSP** **RSP2-MH**

Preset type open end head P.20

Preset type ring head P.20

SF/F/QF/CF

Beam type P.40

CEM3-G/CTB2-G

Digital type P.36

For calibrating torque wrenches

TCC2-G

P.55

DOTE3-G

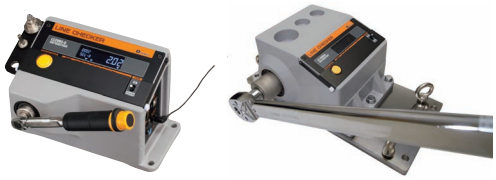
P.54

Tightening at one particular torque only

RNTD/NTD

Preset version of RTD P.7

For daily inspection of torque wrenches



LC3-G Line Checker P.56

STC2-G

Digital type P.10

Other Torque Wrench Testers:
DOT and **TF** models are also available.

Other Torque Measurement

ST3-G/TCF/TCR

P.56 P.61

ATGE-G

Digital type P.58

BTGE-G

Digital type P.59

TME2

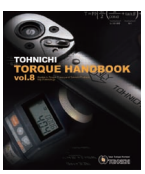
Digital type P.60

Example

CL 100 N × 15D

- 15D — Size of interchangeable head
  * Interchangeable head type only
- N — Unit (N = N·m, CN = cN·m, MN = mN·m)
- 100 — Torque range (Maximum torque in S.I. unit)
- CL — Model

Please refer to the **"Torque Handbook vol. 8"** for further technical information.

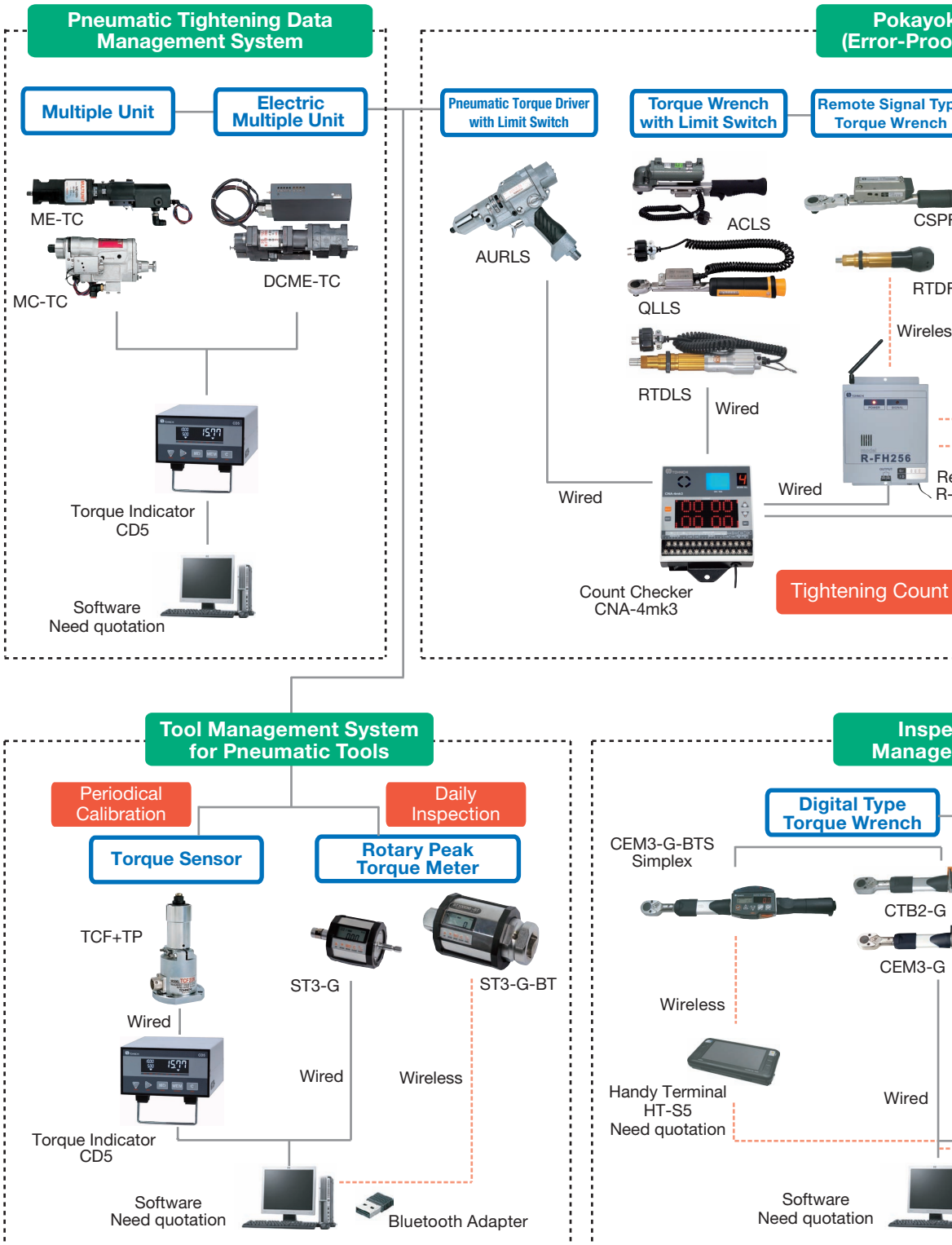


From Torque Control to Tightening Assurance System

Tohnichi's Torque Assurance System advises the users how to tighten bolts properly and how to eliminate various mistakes which occur during bolt tightening operations.

Total Tightening Management System, which completes tightening assurance, will be created through cooperation of your staffs. Each component and product which consists of the system can be sold separately. The components and products are described in the catalog.

TOHNICHI TIGHTENING ASSURANCE SYSTEM



Characteristic factors (4M's) of defects in bolt tightening

1. **MAN** (Tightening operator human error)
   - · Missed tightening
   - · Improper tightening tool usage
2. **METHOD** (Improper tightening specification)
   - · Wrong tightening value specification
   - · Wrong tightening procedure
   - · Wrong tightening tool selection
3. **MACHINE** (Improper tightening equipment)
   - · Inaccuracy
   - · Mechanical failure
4. **MATERIAL** (Improper screw joint material)
   - · Part out of tolerance
   - · Defective part material
   - · Insufficient screw part lubricant

Data Management System for Backup

Manual Tightening Data Management System

ke System fing System)

Battery Operated Torque Driver

HATFH

Wireless

Wireless

eceiver -FH256

Wired

Control

Marking Torque Wrench

For Hexagon Head Bolt MPQL

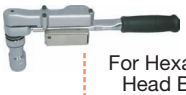
For Hexagon Socket Head Bolt CMQSP

MPQLFH Special Product

MPQLLS Special Product

Visual Check

Marking Torque Wrench with Sensor



For Hexagon Head Bolt MQSPFHDS Special Product

Torque Wrench with Sensor

CSPD Special Product

Wired

Torque Indicator CD5

Data Transfer Torque Wrench

CSPFHDS (w/o Torque Display) Special Product

CEM3-G-BTD Duplex

CSPFHD (w/ Torque Display) Special Product

Wireless

Receiver R-FHD256 Special Product

Wireless

Software Need quotation

Bluetooth Adapter

ction Data ment System

Digital Type Torque Driver

STC2-G STC2-G-BT

Wired

Wireless

Tool Management System for Manual Tools

Periodical Calibration

Daily Inspection

Torque Driver Tester

Torque Wrench Tester

Torque Wrench Checker

TDT3-G

DOTE3-G

TCC2-G

TF

LC3-G

Software Need quotation

RTD

Rotary Slip Adjustable Torque Screwdriver

Direction

RTD60CN

RTD120CN (with Resin Grip)

Assembly **Adjustable** **Rotary Slip** **Graduation** RoHS

- Ratcheting mechanism prevents over torque.
- Torque value easily set with external scale

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
							ozf·in	ozf·in		
-	-	-	-	-	-	RTD20Z	6-20	0.2	100	50
-	-	-	-	-	-	RTD40Z	15-40	0.5		
-	-	-	-	-	-	RTD80Z	20-80	1	110	80
-	-	-	-	-	-	RTD150Z	30-150	2	130	160
							lbf·in	lbf·in		
RTD15CN	2-15	0.1	1.5RTD	0.2-1.5	0.01	RTD1.3I	0.2-1.3	0.01	100	50
RTD30CN	4-30	0.2	3RTD	0.4-3	0.02	RTD2.6I	0.4-2.6	0.02		
RTD60CN	10-60	0.5	6RTD	1-6	0.05	RTD5I	1-5	0.05	110	80
RTD120CN	20-120	1	12RTD	2-12	0.1	RTD10I	2-10	0.1	130	160
RTD260CN	60-260	2	26RTD	6-26	0.2	RTD22I	6-22	0.2	150	270
RTD500CN	100-500	5	50RTD	10-50	0.5	RTD40I	10-40	0.5	155	320

Note
1. Auxiliary tightening tool for RTD500CN is available, sold separately.
2. Bits are sold separately. Refer to page 11.

Standard Accessories
1. Preset hook spanner (for RTD260CN and RTD500CN only)
2. Resin grip (for RTD120CN and RTD260CN only)

LTD

Adjustable Torque Screwdriver

Direction

LTD60CN

LTD120CN (with Resin Grip)

Assembly **Adjustable** **Graduation** RoHS

- Clicks at set torque value
- Torque value easily set with external scale

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
							ozf·in	ozf·in		
-	-	-	-	-	-	LTD20Z	6-20	0.2	100	50
-	-	-	-	-	-	LTD40Z	15-40	0.5		
-	-	-	-	-	-	LTD80Z	20-80	1	110	80
-	-	-	-	-	-	LTD150Z	30-150	2	130	160
							lbf·in	lbf·in		
LTD15CN	2-15	0.1	1.5LTD	0.2-1.5	0.01	LTD1.3I	0.2-1.3	0.01	100	50
LTD30CN	4-30	0.2	3LTD	0.4-3	0.02	LTD2.6I	0.4-2.6	0.02		
LTD60CN	10-60	0.5	6LTD	1-6	0.05	LTD5I	1-5	0.05	110	80
LTD120CN	20-120	1	12LTD	2-12	0.1	LTD10I	2-10	0.1	130	160
LTD260CN	60-260	2	26LTD	6-26	0.2	LTD22I	6-22	0.2	150	270
LTD500CN	100-500		50LTD	10-50		LTD40I	10-40		155	320
LTD1000CN	200-1000	5	100LTD	20-100	0.5	LTD90I	20-90	0.5	185	580
LTD2000CN	300-2000		200LTD	30-200		LTD180I	30-180		255	1150

Note
1. Auxiliary tightening tool for LTD500CN and LTD1000CN is available, sold separately.
2. Bits are sold separately. Refer to page 11.
3. Bits for LTD2000CN are supplied from only Tohnichi.

Standard Accessories
1. Preset hook spanner (for LTD260CN-LTD2000CN only)
2. LTD2000CN comes with an auxiliary tightening tool.
3. Resin grip (for LTD120CN and LTD260CN only)

RTDLS/RNTDLS

Direction

Rotary Slip type Torque Screwdriver with Limit Switch

RTDLS

RNTDLS

Assembly RoHS

- RTD/RNTD style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
RTDLS120CN	20-120	1	12RTDLS	2-12	0.1	RTDLS10I	2-10	0.1	184	340
RTDLS260CN	60-260	2	26RTDLS	6-26	0.2	RTDLS22I	6-22	0.2	201	450
RTDLS500CN	100-500	5	50RTDLS	10-50	0.5	RTDLS40I	10-40	0.5	212	540
RNTDLS120CN	40-120			4-12			4-10		166	320
RNTDLS260CN	100-260	-	-	10-26	-	-	10-22	-	167	390
RNTDLS500CN	200-500			20-50			20-40		175	480

Note
1. Bits are sold separately. Refer to page 11.
2. RNTDLS models are required a torque driver tester for torque setting. Specify required torque when you order. (Ex. RNTDLS120CN × 100cN·m)
3. Limit switch specifications AC30V below 1A, DC30V below 1A
4. Female connector for LS cable is sold separately. Part# WA5219K.

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

RNTD

Rotary Slip Preset Torque Screwdriver

Direction

RNTD60CN

RNTD120CN (with Resin Grip)

Assembly | Preset | Rotary Slip | RoHS

- Preset version of RTD
- No external scale, Torque value set using tester

Accuracy ±3%

Model	Torque Range [cN·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Weight [g]
RNTD15CN	5-15	0.5-1.5	0.5-1.3	95	71
RNTD30CN	10-30	1-3	1-2.5		
RNTD60CN	20-60	2-6	2-5		
RNTD120CN	40-120	4-12	4-10	110	110
RNTD260CN	100-260	10-26	10-22		180
RNTD500CN	200-500	20-50	20-40	120	270

Note
1. A torque driver tester is necessary for torque setting. Specify required set torque when you order. (Ex. RNTD120CN × 100cN·m)
2. Torque adjusting bar is sold separately. Refer to page 46.
3. Bits are sold separately. Refer to page 11.

Standard Accessories
1. Resin grip (for RNTD120CN and RNTD260CN only)
2. Auxiliary tightening bar (for RNTD500CN only)

NTD

Preset Torque Screwdriver

Direction

NTD60CN

NTD120CN (with Resin Grip)

Assembly | Preset | RoHS

- Preset version of LTD
- No external scale, Torque value set using tester

Accuracy ±3%

Model	Torque Range [cN·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Weight [g]
NTD15CN	5-15	0.5-15	0.5-1.3	95	70
NTD30CN	10-30	1-3	1-2.5		
NTD60CN	20-60	2-6	2-5		
NTD120CN	40-120	4-12	4-10	110	110
NTD260CN	100-260	10-26	10-22		180
NTD500CN	200-500	20-50	20-40	120	270
NTD1000CN	400-1000	40-100	40-90	155	550

Note
1. A torque driver tester is necessary for torque setting. Specify required set torque when you order. (Ex. NTD120CN × 100cN·m)
2. Torque adjusting bar is sold separately. Refer to page 46.

Standard Accessories
1. Resin grip (for NTD120CN and NTD260CN only)
2. Auxiliary tightening bar (for NTD500CN and NTD1000CN only)

RTDZ/RNTDZ

Direction

Rotary Slip Adjustable/Preset Insulated Torque Screwdriver

RTDZ260CN

RNTDZ500CN

Assembly | Rotary Slip | Resin Body | RoHS

- Insulated design suited for use in electric shock hazard conditions.
- Ideal for electric car assembly, connection of battery terminal wiring work etc.

Accuracy ±3%

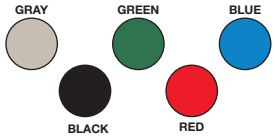
S.I. Model	Torque Range [cN·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	Torque Range [lbf·in] Min.-Max.	Grad.	Overall Length [mm]	Weight [g]
RTDZ260CN	60-260	2	26RTDZ	6-26	0.2	-	-	150	220
RTDZ500CN	100-500	5	50RTDZ	10-50	0.5	-	-	183	380
RNTDZ260CN	100-260	-	-	10-26	-	10-22	-	123	240
RNTDZ500CN	200-500	-	-	20-50	-	20-40	-	138	340

Note
1. RNTDZ models are required a torque driver tester for torque setting. Specify required torque when you order. (Ex. RNTDZ260CN × 200cN·m)
2. Torque adjusting bar is sold separately. Refer to page 7.
3. Bits are sold separately. Refer to page 11.
4. Bits are not insulation coating.

SPECIAL TOOLS FOR TORQUE SCREWDRIVER

RESIN GRIP (for 120CN, 260CN)

ORANGE



For 120CN

Part #	Color	Applicable Model
850	Orange	RTD120CN LTD120CN RNTD120CN NTD120CN
851	Gray	
852	Black	
853	Green	
854	Red	
855	Blue	

For 260CN

Part #	Color	Applicable Model
856	Orange	RTD260CN LTD260CN
857	Gray	
858	Black	RNTD260CN NTD260CN
859	Green	
860	Red	
861	Blue	

Resin Grip Dimensions	120CN RTD LTD	120CN RNTD NTD	260CN RTD LTD	260CN RNTD NTD
Hexagon width across flats Maximum value [mm]	33		41	
Hexagon width across corner Maximum value [mm]	35		44	
Length [mm]	67	67	81	68
Overall Length with torque screwdriver [mm]	130	110	150	110

ADJUSTING TOOL (for RTD/LTD)

- Used for zero adjustment

Part #	Applicable Model
51	LTD/RTD15CN, 30CN
46	LTD/RTD60CN
47	LTD/RTD260CN
48	LTD/RTD500CN
49	LTD/RTD1000CN
1046	LTD/RTD120CN

AUXILIARY TIGHTENING TOOL (for RTD/LTD/RNTD/NTD)

- Make easier for large torque tightening

Part #	Applicable Model
31	LTD/RTD/NTD/RNTD500CN
32	LTD/NTD1000CN
40	LTD2000CN
1031	RTDLS500CN RNTDSL500CN

PRESET HOOK SPANNER (for RTD/LTD)

- Make easier for middle and large torque setting

Part #	Applicable Model
52	LTD/RTD260CN
53	LTD/RTD500CN
54	LTD1000CN
55	LTD2000CN

TORQUE ADJUSTING BAR (for RNTD/NTD)

- Used for torque setting of preset torque screwdriver

Part #	Applicable Model
42	NTD/RNTD15CN-120CN
43	NTD/RNTD260CN, RNTDZ
44	NTD/RNTD500CN-1000CN

AMRD/BMRD

Direction

Rotary Slip Adjustable Torque Screwdriver for Small Screws

AMRD4CN

BMRD30CN2

Assembly **Adjustable** **Rotary Slip** **Graduation** RoHS

- Low torque version of RTD
- AMRD includes special size bits.

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length	Weight	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[mm]	[g]	⊕	⊖Thickness×Width
AMRD	cN·m	cN·m		gf·cm	gf·cm		ozf·in	ozf·in				
AMRD1CN	0.3-1	0.01	100AMRD	30-100	1	-	-	-				0.15×1
AMRD2CN	0.5-2	0.025	200AMRD	50-200	2.5	AMRD3Z	1-3	0.05	93	26	# 0	0.2×1.5
AMRD4CN	1-4	0.05	400AMRD	100-400	5	AMRD6Z	2-6	0.1				0.3×2
AMRD8CN	2-8		800AMRD	200-800	10	AMRD12Z	3-12	0.2				
BMRD		0.1		kgf·cm	kgf·cm		lbf·in	lbf·in				
BMRD15CN2	2-15		1.5BMRD2	0.2-1.5	0.01	1.5BMRD2-A	0.2-1.5	0.005	116	50	-	-
BMRD30CN2	4-30	0.2	3BMRD2	0.4-3	0.02	3BMRD2-A	0.4-3	0.01				

Note

1. Bits for BMRD are sold separately. Refer to page 11.
2. Bits for AMRD are supplied from only Tohnichi.

AMLD/BMLD

Direction

Adjustable Torque Screwdriver for Small Screws

AMLD4CN

BMLD30CN2

Assembly **Adjustable** **Graduation** RoHS

- Low torque version of LTD
- AMLD includes special size bits.

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length	Weight	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[mm]	[g]	⊕	⊖Thickness×Width
AMLD	cN·m	cN·m		gf·cm	gf·cm		ozf·in	ozf·in				
AMLD1CN	0.3-1	0.01	100AMLD	30-100	1	-	-	-				0.15×1
AMLD2CN	0.5-2	0.025	200AMLD	50-200	2.5	AMLD3Z	1-3	0.05	83	26	# 0	0.2×1.5
AMLD4CN	1-4	0.05	400AMLD	100-400	5	AMLD6Z	2-6	0.1				0.3×2
AMLD8CN	2-8		800AMLD	200-800	10	AMLD12Z	3-12	0.2				
BMLD		0.1		kgf·cm	kgf·cm		lbf·in	lbf·in				
BMLD15CN2	2-15		1.5BMLD2	0.2-1.5	0.01	1.5BMLD2-A	0.2-1.5	0.005	116	50	-	-
BMLD30CN2	4-30	0.2	3BMLD2	0.4-3	0.02	3BMLD2-A	0.4-3	0.01				

Note

1. Bits for BMLD are sold separately. Refer to page 11.
2. Bits for AMLD are supplied from only Tohnichi.

Daily Check and Calibration of Torque Screwdrivers

Digital Torque Gauges for Daily Inspections

One use of ATGE-G and BTGE-G digital torque gauges is to check the accuracy of small torque screwdrivers such as AMLD/AMRD and BMLD/BMRD. Monitoring drivers with daily inspections confirms driver function and accuracy prior to use.

- Six models of ATGE-G cover a torque capacity from 0.1 cN·m to 20 cN·m.
- Five models of BTGE-G cover a torque capacity from 2 to 20 cN·m.
- #808 (for ATGE-G) and #809 (for BTGE-G) Measurement Board (Optional Accessory shown at the right)

Torque checking figure for AMRD torque screwdriver for small screws with ATGE-G and optional ATGE-G Measurement board

Torque checking figure for BMRD torque screwdriver for small screws with BTGE-G

Torque Driver Tester for Calibration and Adjustments

TDT3-G digital torque driver testers are for the calibration of torque screwdrivers such as RTD/LTD (click type) and FTD (indicating type). The loading device keeps the driver steady and in a vertical position during testing for highly accurate calibration and easy adjustments.

- TDT60CN3-G (2-60 cN·m)
- TDT600CN3-G (20-600 cN·m)

Calibration figure for torque screwdriver RTD left and FTD right with TDT3-G

FTD

Dial Indicating Torque Screwdriver with Memory Pointer

Direction

FTD200CN2-S

FTD100CN

Inspection **Dial Indicating** **Memory Pointer** **Direct Reading** RoHS

- Ideal for measuring torque
- FTD-S with memory pointer; FTD with preset knob

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖Thickness × Width
FTD-S	cN·m	cN·m		gf·cm	gf·cm		ozf·in	ozf·in				
FTD2CN-S	0.3-2	0.05	02FTD2-S	30-200	5	FTD3Z2-S	0.5-3	0.1				
FTD5CN-S	0.5-5	0.1	05FTD2-S	50-500	10	FTD7Z2-S	1-7	0.2				
				kgf·cm	kgf·cm				152	140		
FTD10CN-S	1-10	0.2	1FTD2-S	0.1-1	0.02	FTD15Z2-S	2-15	0.5				
FTD20CN-S	3-20	0.5	2FTD2-S	0.3-2	0.05	FTD30Z2-S	5-30	1				
FTD50CN2-S	5-50	1	5FTD2-S	0.5-5	0.1	FTD70Z2-S	10-70	2				
							lbf·in	lbf·in				
-	-	-	-	-	-	5FTD2-A-S	0.5-5	0.1				
FTD100CN2-S	10-100	2	10FTD2-S	1-10	0.2	10FTD2-A-S	1-10	0.2	272	370		
FTD200CN2-S	30-200	5	20FTD2-S	3-20	0.5	20FTD2-A-S	3-20	0.5				
FTD400CN2-S	50-400	10	40FTD2-S	5-40	1	40FTD2-A-S	5-40	1				
	N·m	N·m										
FTD8N2-S	1-8	0.2	80FTD2-S	10-80	2	80FTD2-A-S	10-70	2		900		
FTD16N2-S	3-16	0.5	160FTD2-S	30-160	5	160FTD2-A-S	20-140	5	338	930	# 3	1.2 × 8
FTD	cN·m	cN·m										
FTD50CN	10-50	1	5FTD	1-5	0.1	5FTD-A	1-5	0.1	215	285	# 1	0.7 × 7
FTD100CN	20-100	2	10FTD	2-10	0.2	10FTD-A	1-10	0.2		290		
FTD200CN	40-200	5	20FTD	4-20	0.5	20FTD-A	3-20	0.5	263	390	# 2	0.9 × 7
FTD400CN	80-400	10	40FTD	8-40	1.0	40FTD-A	5-40	1		410		

Interchangeable bit is sold separately. Refer to page 11.

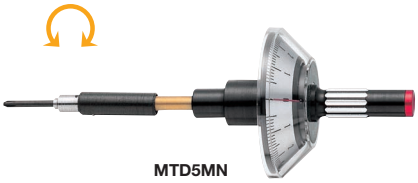
Note FTD8N2-S, FTD16N2-S: Square drive type (6.35mm).

Standard Accessories Auxiliary tightening bar (for FTD8N2-S and FTD16N2-S only)

MTD

Micro Dial Indicating Torque Screwdriver

Direction



MTD5MN

Inspection **Dial Indicating** **Direct Reading** RoHS

- Low torque capacity version of FTD
- Requires special size bits

Accuracy ±3%

S.I. Model	Torque Range [mN·m]		Metric Model	Torque Range [gf·cm]		American Model	Torque Range [ozf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖Thickness × Width
MTD1MN	0.1-1	0.02	10MTD	1-10	0.2	-	-	-	110	22		
MTD2MN	0.3-2	0.05	20MTD	3-20	0.5	-	-	-	100	21	# 0	0.15 × 1 0.2 × 15 0.3 × 2
MTD5MN	0.5-5	0.1	50MTD	5-50	1	MTD07Z	0.1-0.7	0.02				
MTD10MN	1-10	0.2	100MTD	10-100	2	MTD1.4Z	0.2-1.4	0.02	132	23		

Note MTD models require Tohnichi made bits. Refer to page 11.

STC2-G
STC2-G-BT

Digital Torque Screwdriver

Assembly | Inspection | Digital | Bit | Direct Reading | Rechargeable

- Ideal for tightening and inspection operation
- 1000 data memory storage and data output function
- LED (White, Blue, and Yellow/Red) indicator

RoHS

Direction

STC200CN2-G

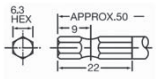
Accuracy ±1%

Model		Torque Range								Overall Length	Weight
		[cN·m]		[kgf·cm]		[lbf·in]		[ozf·in]			
standard version	Bluetooth version	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	[mm]	[g]
STC50CN2-G	NEW STC50CN2-G-BT	10-50	0.05	1-5	0.005	1-4.4	0.005	15-70	0.05		
STC200CN2-G	NEW STC200CN2-G-BT	40-200	0.2	4-20	0.02	4-17	0.02	-	-	230	325
STC400CN2-G	NEW STC400CN2-G-BT	80-400	0.5	8-40	0.05	8-35	0.05	-	-		

Note

1. Bits are sold separately. Refer to page 11.
2. Bits size as below
3. Refer to page 30 for condition of wireless equipment in each country.
4. Data output of standard version is through USB only.
5. Data output of Bluetooth version is through USB and Bluetooth.

Standard Accessories USB cable/384, AC adapter/BA-7, and Battery pack/BP-7. Refer to page 47.



White LED light
(80% of target torque)

Blue LED light
(Achieving target torque)

Yellow & Red flashing LED light
(Over torque)

Display can be turned upside down with keypad operation.

[EX.] Torque checking figure for torque screwdriver

STC2-G

■ STC2-G Optional Accessories

AC Adapter (P.47)

Model	Applicable Model
BA-7	STC2-G

Battery Pack (P.47)

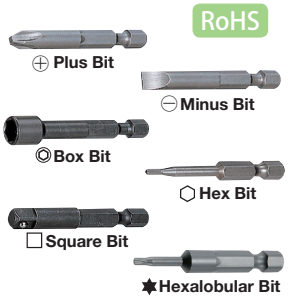
Model	Applicable Model
BP-7	STC2-G

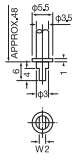
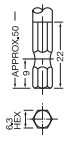
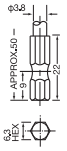
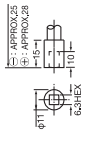
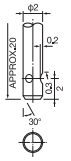
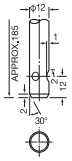
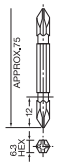
PC Connecting Cable (P.47)

Model	Applicable Model
384	STC2-G (P.10), ST3-G (P.56), ATGE-G (P.58), BTGE-G (P.59)

Interchangeable Bit

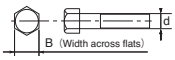
RoHS



	From Torque Tool						
Applicable Torque Screwdriver	-	RTD/RTDZ/LTD BMRD BMLD FTD50CN - 400CN FTD2CN-S - 400CN2-S STC2-G		FTD8N2-S - FTD16N2-S, (FTD8N - 16N)	AMRD AMLD MTD	LTD2000CN	-
Applicable Power Torque Tool	U30CN	U (except U30CN)		-	-	-	AUR5N
Root Shape Sign	A	B	C	D	F	G	H
Root Shape and Dimensions							

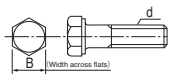
	Sign	Size		Screw	Tohnichi Original Bit	Common (Standard)		Tohnichi Original Bit	Tohnichi Original Bit	Tohnichi Original Bit	Common (Standard)
From Bolt	Plus										
	0	#0 (S-0)		Refer to Table A	104		109		115		
	1	#1 (H-1)		Refer to Table A		85	106	84	116		
	2	#2 (H-2)		Refer to Table A		86	107	80			
	3	#3 (H-3)		Refer to Table A		87		81		35	700
	4	#4 (H-4)		Refer to Table A						36	
	Minus										
	10	0.15 × 1		Refer to Table B					111		
	11	0.2 × 1.5		Refer to Table B					112		
	12	0.3 × 2		Refer to Table B					113		
	13	0.4 × 2.4		Refer to Table B	105						
	14	0.6 × 3.8		Refer to Table B			108				
	15	0.7 × 7		Refer to Table B		88					
	16	0.9 × 7		Refer to Table B		89					
	17	1 × 10		Refer to Table B						37	
	18	1 × 12		Refer to Table B						38	
	19	1.2 × 17		Refer to Table B						39	
	20	1.6 × 10		Refer to Table B				82			
	21	1.2 × 8		Refer to Table B				83			
	Box			Hex Bolt							
	W 5.5	5.5		M3		91					
	W 6	6		(M3.5)		95					
	W 7	7		M4		92					
	W 8	8		(M4.5) M5		93					
	W 10	10		M6		94					
	Hex		Cap Screw	Set Screw							
	W 1.27	1.27		M2.5		56					
	W 1.5	1.5		M3		57					
	W 2	2	M2.5	M4		58					
	W 2.5	2.5	M3	M5		59					
	W 3	3	M4	M6		60					
	W 4	4	M5	M8		61					
	W 5	5	M6	M10		62					
	W 6	6	M8	M12 (M14)		63					
	W 8	8	M10	M16 (M18)		64					
	Square Drive										
	□2	□6.35	(1/4)			90				33	
	□3	□9.53	(3/8)							34	
	Hexalobular	Flat Head	Socket Head	Set Screw							
	T 5	M2		M2.5			470				
	T 6	M2		M3			471				
	T 7			M3.5							
	T 8	M2.5	M2.5	M4			472				

Bolt Head Shape (Ref.)

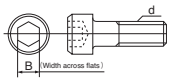


Nominal Size of Screw (d)	Hex head Bolt (B)	Small Hex Head Bolt (B)	High Strength Hex Bolt for Friction Grip Joint (B)	Hex Socket Head Cap Screw (B)	Hex Socket Set Screw (B)
M2.5	4.5	-	-	2	1.27
M3	5.5	-	-	2.5	1.5
(M3.5)	6	-	-	-	-
M4	7	-	-	3	2
(M4.5)	8	-	-	-	-
M5	8	-	-	4	2.5
M6	10	-	-	5	3
(M7)	11	-	-	-	-
M8	13	12	-	6	4
M10	16 17	14	-	8	5
M12	18 19	17	22	10	6
(M14)	21 22	19	-	12	
M16	24	22	27	14	8
(M18)	27	24	-		
M20	30	27	32	17	10
(M22)	32 34	30	36		-
M24	36	32	41	19	-
(M27)	41	36	46		-
M30	46	41	50	22	-
(M33)	50	46	-	24	-
M36	55	50	-	27	-
(M39)	60	55	-		-
M42	65	-	-	32	-
JIS	JIS B 1180	JIS B 1180	JIS B 1186	JIS B 1176	JIS B 1177

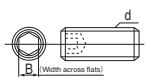
Hex Bolt



Cap Screw



Set Screw



How to order:

Indicate the model name and catalog No.

(EXAMPLE) MODEL NAME CATALOG No.

⊕BIT A - 0 104

Root Shape Sign / Point Shape Sign

⊕Size of Bits

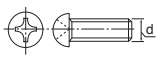


Table A

No. of Cross Nominal Size of Screw	Hole No.	Remark
M1.6, M2	#0 (S-0)	Pan head screw, Flat head screw, Pan flat screw, Bind screw [(M3) #1 is bind small screw only] [(M2) #1 is not compliant with ISO]
[M2], (M2.2), M2.5, (M3)	#1 (H-1)	
M3, (M3.5), M4, (M4.5), M5	#2 (H-2)	
M6	#3 (H-3)	
M8, M10	#4 (H-4)	

Flat Head Screw

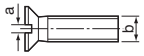


Table B

Nominal Size (a)	M1	M1.2	(M1.4)	M1.6	(M1.7)	M2	(M2.2M)	M2.3	M2.5	(M2.6)	M3	(M3.5)	M4	(M4.5)	M5	M6	M8	M10
ISO Screws				0.4		0.5			0.6		0.8	1	1.2		1.2	1.6	2	2.5
Non-ISO Screws	0.32			0.4		0.6				0.8		1			1.2		1.6	

QL/QLE2

Ratchet Head Type Adjustable Torque Wrench

Direction

Assembly | Adjustable | Ratchet Head | Graduation | RoHS

- Basic adjustable click style with resin grip
- Torque value easily set with external scale and knob

QL5N

QLE750N2

QL100N4

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
QL	N·m	N·m		kgf·cm	kgf·cm		lbf·in	lbf·in			
QL2N	0.4-2	0.02	20QL	4-20	0.2	QL15I-2A	3-15	0.1	194		0.27
QL5N	1-5	0.05	50QL	10-50	0.5	QL30I-2A	6-30	0.2			
QL10N	2-10	0.1	100QL	20-100	1	QL50I-2A	10-50	0.5	219	6.35	0.29
QL15N	3-15		150QL	30-150		QL100I-2A	20-100				
QL25N5-1/4	5-25	0.2	225QL5-1/4	50-250	2.5	QL200I-2A	50-200	2.5	237		0.33
QL25N5			225QL5			QL200I-3A					
QL50N	10-50	0.5	450QL3	100-500	5	QL400I-3A	100-400	5	260		0.45
-	-	-	-	-	-	QL750I-3A	150-750	10		9.53	
							lbf·ft	lbf·ft	335		0.69
QL100N4-3/8	20-100		900QL4-3/8	200-1000		QL75F-3A	15-75	1			
QL100N4	20-100	1	900QL4	200-1000	10	-	-	-			
QL140N	30-140		1400QL3	300-1400		QL100F-4A	30-100	1	400		0.88
QL200N4	40-200		1800QL4	400-2000	20	QL150F-4A	30-150		490	12.7	1.4
				kgf·m	kgf·m						
QL280N-1/2	40-280	2	2800QL3-1/2	4-28		QL200F-4A	30-200	2	695		2.0
QL280N			2800QL3		0.2	-	-				
QL420N	60-420		4200QL2	6-42		QL300F-6A	60-300		995		3.4
QLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft		19.05	
QLE550N2	100-550		5500QLE2	10-55		QLE400F-6A	100-400		1189		4.3
QLE750N2	150-750	5	7500QLE2	15-75	0.5	QLE600F-6A	150-600	5	1342		5.6
QLE1000N2	200-1000		10000QLE2	20-100		QLE700F-8A	200-700		1515		7.7
QLE1400N2	300-1400	10	14000QLE2	30-140	1	QLE1000F-8A	300-1000	10	1787	25.4	11.1
QLE2100N2	500-2100		21000QLE2	50-210		QLE1500F-8A	500-1500		1895		14.6
QLE2800N2	800-2800	20	28000QLE2	80-280	2	QLE2000F-12A	600-2000	20	2405	38.1	23.7

Note

1. QL2N-QL25N5 are yellow/black resin grips. QL50N-QL280N are black resin grips.
2. QL420N and QLE550N2-QLE2800N2 are knurled handles.
3. QLE2800N2 has 25.4mm square drive, use a through-hole socket.

QL/QL-MH Optional Accessories

842

846

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]
842	QL50N, QL50N-MH, QL100N4-MH (H60 × W400 × D70)
843	QL140N, QL140N-MH, QL200N4, QL200N4-MH (H60 × W520 × D80)
846	QL140N, QL140N-MH and below (H170 × W500 × D100)
847	QL280N, QL280N-MH and below (H170 × W740 × D100)

863

862

864

Color Cap

Part #	Color	Applicable Model
862	Red	QL2N, QL5N QL10N, QL15N, QL25N5-1/4, QL25N5
863	Blue	
864	Green	
865	Black	

NEW

Protective Head Cover

Refer to page 46.

QLLS

RoHS

- QL style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

QLLS100N4

S.I. Model	Metric Model
QLMS2N-MH	20QLMS-MH
QLMS5N-MH	50QLMS-MH
QLMS10N-MH	100QLMS-MH
QLMS10N	100QLMS
QLMS15N	150QLMS
QLMS15N-MH	150QLMS-MH
QLLS25N5	225QL5LS
QLLS50N	450QL3LS
QLLS100N4	900QL4LS
QLLS140N	1400QL3LS
QLLS200N4	1800QL4LS
QLLS280N	2800QL3LS
QLLS420N	4200QL2LS

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

QL-MH

Ratchet Head Type Adjustable Torque Wrench with Metal Handle

Direction

Assembly | Adjustable | Ratchet Head | Graduation | RoHS

- Knurled metal handle version of QL
- Ideal for oily working conditions

QL100N4-MH

QL5N-MH

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in			
QL2N-MH	0.4-2.0	0.02	20QL-MH	4-20	0.2	QL15I-2A-MH	3-15	0.1	160	6.35	0.16
QL5N-MH	1-5	0.05	50QL-MH	10-50	0.5	QL30I-2A-MH	6-30	0.2			
QL10N-MH	2-10	0.1	100QL-MH	20-100	1	QL50I-2A-MH	10-50	0.5	195		0.19
QL15N-MH	3-15		150QL-MH	30-150		QL100I-2A-MH	20-100	1			
QL25N-MH	5-25	0.25	225QL-MH	50-250	2.5	-	-	-	230	9.53	0.25
QL50N-MH	10-50	0.5	450QL-MH	100-500	5	-	-	-	260		0.45
QL100N4-MH	20-100	1	900QL4-MH	200-1000	10	-	-	-	335		0.69
QL140N-MH	30-140		1400QL-MH	300-1400		-	-	-	400	12.7	0.88
QL200N4-MH	40-200	2	1800QL4-MH	400-2000	20	-	-	-	490		1.4
				kgf·m	kgf·m						
QL280N-MH	40-280		2800QL-MH	4-28	0.2	-	-	-	695	19.05	1.9

CL/CLE2

Direction

Interchangeable Head Type Adjustable Torque Wrench

Assembly **Adjustable** **Interchangeable** **Graduation** RoHS

- Heads types can be easily exchanged.
- Torque value easily set with external scale and knob

CL2N×8D

CLE850N2×32D

CL100N×15D

Accuracy ±3%

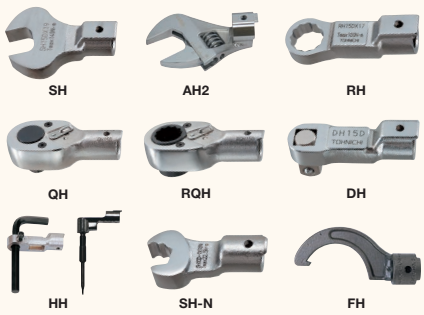
Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
	CL	N·m	N·m		kgf·cm	kgf·cm		lbf·in	lbf·in		
8D	CL2N×8D	0.4-2	0.02	20CL	4-20	0.2	CL15I×8D	3-15	0.1	174	0.24
	CL5N×8D	1-5	0.05	50CL	10-50	0.5	CL30I×8D	6-30	0.2		
	CL10N×8D	2-10	0.1	100CL	20-100	1	CL50I×8D	10-50	0.5	199	0.26
	CL15N×8D	3-15		150CL	30-150		CL100I×8D	20-100			
10D	CL25N5×10D	5-25	0.2	225CL5	50-250	2.5	CL200I×10D	50-200	2.5	216	0.3
12D	CL50N×12D	10-50	0.5	450CL3	100-500	5	450CL3-A	100-400	5	230	0.37
15D	CL50N×15D			500CL3			500CL3-A	100-450		235	
	CL100N×15D	20-100	1	900CL3	200-1000	10	900CL3-A	200-800	10	310	0.52
								lbf·ft	lbf·ft		
	CL140N×15D	30-140		1400CL3	300-1400		1400CL3-A	30-100	1	370	0.67
19D	CL200N×19D	40-200	2	1800CL3	400-2000	20	1800CL3-A	30-150	2	455	1.2
					kgf·m	kgf·m					
22D	CL280N×22D	40-280		2800CL3	4-28	0.2	2800CL3-A	30-200		655	1.8
	CL420N×22D	60-420		4200CL2	6-42		4200CL2-A	60-300		940	3.1
	CLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft		
27D	CLE550N2×27D	100-550	5	5500CLE2	10-55	0.5	CLE400F×27D	100-400	5	1148	3.9
	CLE750N2×27D	150-750		7500CLE2	15-75		CLE550F×27D	150-550		1291	4.9
32D	CLE850N2×32D	200-850		8500CLE2	20-85		CLE600F×32D	150-600		1297	5.1
	CLE1200N2×32D	300-1200		12000CLE2	30-120		CLE900F×32D	200-900		1464	6.9

Note

1. Overall length does not include interchangeable head. Interchangeable heads are optional.
2. Use CSP model (P.19) for PH (Pipe wrench head) type interchangeable head.
3. CL2N - CL25N5 are yellow/black resin grips. CL50N - CL280N are black resin grips.
4. CL420N and CLE550N2-CLE1200N2 are knurled handles.

Standard Accessories Adjusting handle (for CLE550N2-CLE1200N2)

Interchangeable Head



CL/CL-MH Optional Accessories

842

846

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]
842	CL50N×(12D/15D), CL50N×(12D/15D)-MH, CL100N×15D-MH (H60 × W400 × D70)
843	CL140N×15D(-MH), CL200N×19D(-MH) (H60 × W520 × D80)
846	CL200N×19D, CL200N×19D and below (H170 × W500 × D100)
847	CL280N×22D, CL280N×22D-MH and below (H170 × W740 × D100)

862

863

864

Color Cap

Part #	Color	Applicable Model
862	Red	CL2N×8D, CL5N×8D CL10N×8D, CL15N×8D CL25N5×10D
863	Blue	
864	Green	
865	Black	

CLLS

RoHS

- CL style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

S.I. Model	Metric Model
CLMS2N×8D-MH	20CLMS-MH
CLMS5N×8D-MH	50CLMS-MH
CLMS10N×8D-MH	100CLMS-MH
CLMS10N×8D	100CLMS
CLMS15N×8D	150CLMS
CLMS15N×8D-MH	150CLMS-MH
CLLS25N5×10D	225CL5LS
CLLS50N×12D	450CL3LS
CLLS100N×15D	900CL3LS
CLLS140N×15D	1400CL3LS
CLLS200N×19D	1800CL3LS
CLLS280N×22D	2800CL3LS
CLLS420N×22D	4200CL2LS

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

CL-MH

Direction

Interchangeable Head Type Adjustable Torque Wrench with Metal Handle

Assembly **Adjustable** **Interchangeable** **Graduation** RoHS

- Knurled metal handle version of CL
- Ideal for oily working conditions

CL100N×15D-MH

CL5N×8D-MH

Accuracy ±3%

Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
					kgf·cm	kgf·cm		lbf·in	lbf·in		
8D	CL2N×8D-MH	0.4-2	0.02	20CL-MH	4-20	0.2	CL15I×8D-MH	3-15	0.1	140	0.13
	CL5N×8D-MH	1-5	0.05	50CL-MH	10-50	0.5	CL30I×8D-MH	6-30	0.2		
	CL10N×8D-MH	2-10	0.1	100CL-MH	20-100	1	CL50I×8D-MH	10-50	0.5	175	0.16
	CL15N×8D-MH	3-15		150CL-MH	30-150		CL100I×8D-MH	20-100	1		
10D	CL25N×10D-MH	5-25	0.25	225CL-MH	50-250	2.5	-	-	-	200	0.22
12D	CL50N×12D-MH	10-50	0.5	450CL-MH	100-500	5	-	-	-	230	0.37
15D	CL50N×15D-MH			500CL-MH			-	-	-	235	
	CL100N×15D-MH	20-100	1	900CL-MH	200-1000	10	-	-	-	310	0.52
	CL140N×15D-MH	30-140		1400CL-MH	300-1400		-	-	-	370	0.67
19D	CL200N×19D-MH	40-200	2	1800CL-MH	400-2000	20	-	-	-	455	1.2
					kgf·m	kgf·m					
22D	CL280N×22D-MH	40-280		2800CL-MH	4-28	0.2	-	-	-	655	1.6

Note

1. Overall length does not include interchangeable head.
2. Use CSP model (P.19) for PH (Pipe wrench head) type interchangeable head is not available for this model.
3. Interchangeable heads are optional.

DQL/DQLE2

Direction

Dual Square Drives Type Adjustable Torque Wrench

Assembly **Adjustable** **Ratchet Head** **Graduation** **Bi-Directional** RoHS

- For bi-directional tightening
- Ideal for tightening large vehicle tires

DQL200N4

DQLE750N2

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
DQL	N·m	N·m		kgf·cm	kgf·cm						
DQL200N4	40-200		1800DQL4	400-2000	20	1800DQL4-A	30-150		490	12.7	1.4
		2		kgf·m	kgf·m			2			
DQL280N	40-280		2800DQL3	4-28	0.2	2800DQL3-A	30-200		695		2.0
DQLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft		19.0	
DQLE550N2	100-550		5500DQLE2	10-55		DQLE400F-6A	100-400		1189		4.4
DQLE750N2	150-750	5	7500DQLE2	10-75	0.5	DQLE600F-6A	150-600	5	1342		5.7
DQLE1000N2	200-1000		10000DQLE2	10-100		DQLE700F-8A	200-700		1515	25.4	7.9

Note
1. DQL200N4 and DQL280N have resin grips.
2. For the model having 25.4mm square drive, use a through-hole socket.
3. DQLE550N2-DQLE1000N2 have knurled handles.

Standard Accessories Adjusting handle (for DQLE550N2-DQLE1000N2)

DQL200N4 Optional Accessories

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]	Weight [kg]
843	DQL200N4 (H60 × W520 × D80)	0.36
847	DQL280N and below (H170 × W740 × D100)	1.0

MTQL

Torque Wrench for Motorsports

Direction

MTQL70N

Assembly **Adjustable** **Ratchet Head** **Graduation** RoHS

- Wide capacity adjustable style
- Ideal for motorcycle & motorbike maintenance

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·m]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.			
MTQL40N	5-40	0.5	400MTQL	0.5-4	0.05	250	9.5	0.45
MTQL70N	10-70	1	700MTQL	1-7	0.1	285		0.47
MTQL140N	20-140		1400MTQL	2-14		400	12.7	0.77

Standard Accessories Carrying case

MTQL Optional Accessories

842

846

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]	Weight [kg]
842	MTQL40N, MTQL70N (H60 × W400 × D70)	0.25
843	MTQL140N (H60 × W520 × D80)	0.36
846	MTQL140N and below (H170 × W500 × D100)	1.0

MT70N

Moto Tork (Pre-Lock Adjustable Specialty Torque Wrench)

Direction

MT70N

Assembly **Pre-Lock** **Interchangeable** **Graduation** RoHS

- Converts basic hand tools into torque wrenches
- Ideal for motorcycle maintenance

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·m]		Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		
MT70N	10-70	0.2	MT-7	1.0 -7.0	0.02	238	0.65

Note
1. Ring head wrench (shown in the photo) is not included.
2. Max. clamp width for interchangeable tool is approx. 21mm.
3. Min. interchangeable hex wrench key size is 5mm.

Standard Accessories
1. Carrying case
2. Hex key wrench (for torque adjustment)

TiQL/TiQLE

Direction

Titanium Type Adjustable Torque Wrench

TiQL180N

TiEQLE750N

Assembly | Pre-Lock | Ratchet Head | Graduation | Titanium Material | RoHS

- 50% lighter than standard wrenches
- Ideal for working overhead

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		Overall Length	Square Drive	Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.	[mm]	[mm]	[kg]
TiQL				kgf·cm	kgf·cm			
TiQL180N	40-180		1800TiQL	40-1800	20	494	12.7	0.9
TiLQL180N		2	1800TiLQL			594		1.0
				kgf·m	kgf·m			
TiEQL360N	80-360		3600TiEQL	8-36	0.2	987	19.0	2.4
TiQLE	N·m	N·m		kgf·m	kgf·m			
TiEQLE750N	100-750	5	7500TiEQLE	10-75	0.5	1365		4.5
TiEQLE1400N	200-1400	10	14000TiEQLE	20-140	1	1794	25.4	7.5

Note: For the model having 25.4mm square drive, use a through-hole socket.

Standard Accessories: 1. Hex key and Color marking bands (for TiQL180N, TiLQL180N and TiEQL360N)
2. Adjusting tool (for TiEQLE750N, TiEQLE1400N)

TiEQLE Optional Accessories

Adjusting Tool for TiEQLE (P.46)

Part #	Applicable Model
301	TiEQLE750N, 1400N

TiQLLS

RoHS

- TiQL style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

S.I. Model	Metric Model
TiQLLS180N	1800TiQLLS
TiLQLLS180N	1800TiLQLLS
TiEQLLS360N	3600TiEQLLS

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

PHL/PHLE2

Direction

Pipe-Wrench Head Type Adjustable Torque Wrench

PHL140N

PHLE1300N2

Assembly | Adjustable | Graduation | Pipe-Wrench Head | RoHS

- Ideal for use with pipes and plumbing applications

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Grippable Pipe Dia. [mm]	Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
PHL				kgf·cm	kgf·cm		lbf·in	lbf·in			
PHL50N	10-50	0.5	500PHL3	100-500	5	450PHL3-A	100-400	5		316	1.46
							lbf·ft	lbf·ft			
PHL100N	20-100	1	900PHL3	200-900	10	900PHL3-A	15-75	1	13-38	472	1.61
PHL140N	30-140		1400PHL3	400-1400		1400PHL3-A	30-100			530	1.76
PHL200N	40-200		1800PHL3	400-1800	20	1800PHL3-A	30-150			620	2.3
		2		kgf·m	kgf·m			2			
PHL280N	40-280		2800PHL3	4-28	0.2	2800PHL3-A	30-200			833	2.92
PHL420N	60-420	3	4200PHL	6-42		4200PHL-A	60-300			1122	4.83
PHLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft	26-52		
PHLE850N2	200-850	5	8500PHLE2	20-85	0.5	PHLE600F	150-600	5		1664	8.2
PHLE1300N2	300-1300		13000PHLE2	30-130		PHLE900F	200-900			1831	10

Note: 1. PHLE2 Models have extension bar handle.
2. PHL420N, PHLE850N2, and PHLE1300N2 have knurled handles.

Standard Accessories: Adjusting handle (for PHLE850N2 and PHLE1300N2)

QRSP

Direction

Open Ring Head Type Preset Torque Wrench

QRSP38N×17

Assembly | Preset | Open Ratchet Head | RoHS

- Ring head opens to allow fitting on tubes or pipes.

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Overall Length [mm]	Weight [kg]
QRSP38N×17	10-45	100-450	300	0.4
QRSP38N×19			305	
QRSP38N×21				
QRSP38N×24			310	0.43

Note: A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
(Ex. QRSP38N×17 × 25N·m)

QRSP Optional Accessories

Thrustring Tool for QRSP (P.46)

Part #	Tool #	Applicable Model
312	A-3	QRSP38N

QRSPLS

RoHS

- QRSP style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

Model	Weight [kg]
QRSPLS38N×17	0.4
QRSPLS38N×19	
QRSPLS38N×21	
QRSPLS38N×24	0.43

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

PQL

Ratchet Head Type Pre-Lock Torque Wrench

Direction

Assembly | Pre-Lock | Ratchet Head | Graduation | RoHS

- External scale but requires hex key to set

PQL100N4

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in			
PQL10N	2-10	0.1	100PQL	20-100	1	PQL50I-2A	10-50	0.5	190	6.35	0.19
PQL15N	3-15		150PQL	30-150		PQL100I-2A	20-100	1			
PQL25N	5-25	0.25	225PQL	50-250	2.5	225PQL-A	50-200	2.5	215	9.53	0.25
PQL50N	10-50	0.5	450PQL	100-500	5	450PQL-A	100-400	5	260		0.40
							lbf·ft	lbf·ft			
PQL100N4	20-100	1	900PQL4	200-1000	10	900PQL4-A	15-75	1	320		0.65
PQL140N	30-140		1400PQL	300-1400		1400PQL-A	30-100		385	12.7	0.75
PQL200N4	40-200	2	1800PQL4	400-2000	20	1800PQL4-A	30-150	2	470		1.40
				kgf·m	kgf·m						
PQL280N	40-280		2800PQL	4-28	0.2	-	-	-	670	19.05	2.0
PQL420N	60-420		4200PQL	6-42		-	-	-	975		3.4

Standard Accessories: Hex key (for torque adjustment)

PQL Optional Accessories

842

846

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]	Weight [kg]
842	50N-100N4 (H60 × W400 × D70)	0.25
843	140N-200N4 (H60 × W520 × D80)	0.36
846	200N and below (H170 × W500 × D100)	1.0
847	280N and below (H170 × W740 × D100)	0.36

NEW

Protective Head Cover

Refer to page 46.

PQLLS

RoHS

- PQL style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

S.I. Model	Metric Model
PQLLS25N	225PQLLS
PQLLS50N	450PQLLS
PQLLS100N4	900PQL4LS
PQLLS140N	1400PQLLS
PQLLS200N4	1800PQL4LS
PQLLS280N	2800PQLLS
PQLLS420N	4200PQLLS

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

PQLZ

Pre-Lock Adjustable Insulated Torque Wrench

Direction

PQLZ100N4

Assembly | Pre-Lock | Ratchet Head | Graduation | Vinyl Coating

- Insulated casing prevents electrical shocks.
- Specialized version of PQL

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
PQLZ25N	5-25	0.25	225PQLZ	50-225	2.5	227	9.5	0.28
PQLZ100N4	20-100	1	900PQLZ4	200-900	10	340	12.7	0.80

Standard Accessories: Hex key (for torque adjustment)

QSPZ

Preset Insulated Torque Wrench

Direction

QSPZ25N

Assembly | Preset | Vinyl Coating

- Insulated design suited for use in electric shock hazard conditions
- Ideal for electric car assembly, connection of battery terminal wiring work etc.

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	[kgf·cm] Min.-Max.	[lbf·in] Min.-Max.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
QSPZ25N	5-25	50-250	50-200	227	9.5	0.28
QSPZ100N4	20-100	200-1000	100-750	334	12.7	0.8

Note

1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order. (Ex. QSPZ100N4 × 80N·m)
2. Adjusting tools for QSPZ are sold separately.
3. Sockets are sold separately. Refer to page 41.
4. Sockets are not insulation coating.

PCL

Interchangeable Head Type Pre-Lock Torque Wrench

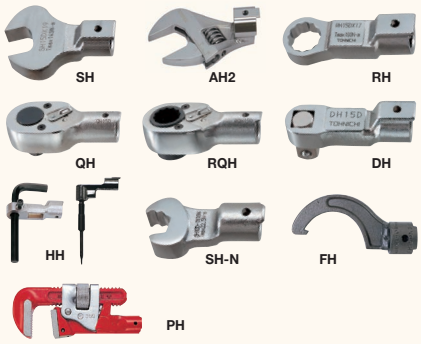
Direction

Assembly **Pre-Lock** **Interchangeable** **Graduation** RoHS

- Interchangeable head version of PQL
- External scale but requires hex key to set

PCL100N×15D

Interchangeable Head



Accuracy ±3%

Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
								lbf·in	lbf·in		
8D	PCL10N×8D	2-10	0.1	100PCL	20-100	1	PCL50I×8D	10-50	0.5	170	0.16
	PCL15N×8D	3-15		150PCL	30-150		PCL100I×8D	20-100	1		
10D	PCL25N×10D	5-25	0.25	225PCL	50-250	2.5	225PCL-A	50-200	2.5	195	0.22
12D	PCL50N×12D	10-50	0.5	450PCL	100-500	5	450PCL-A	100-400	5	220	0.32
	PCL50N×15D	10-50		500PCL	100-500		500PCL-A	100-450		225	
15D								lbf·ft	lbf·ft		
	PCL100N×15D	20-100	1	900PCL	200-1000	10	900PCL-A	15-75	1	295	0.48
	PCL140N×15D	30-140		1400PCL	300-1400		1400PCL-A	30-100		355	0.63
19D	PCL200N×19D	40-200	2	1800PCL	400-2000	20	1800PCL-A	30-150	2	435	1.3

Note
1. Overall length does not include interchangeable head.
2. Use CSP model (P.19) for PH (Pipe wrench head) type interchangeable head.
3. Interchangeable heads are optional.

Standard Accessories Hex key (for torque adjustment)

PCLLS

RoHS

- PCL style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

S.I. Model	Metric Model
PCLLS25N×10D	225PCLLS
PCLLS50N×12D	450PCLLS
PCLLS50N×15D	500PCLLS
PCLLS100N×15D	900PCLLS
PCLLS140N×15D	1400PCLLS
PCLLS200N×19D	1800PCLLS

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

SCL

European Style Interchangeable Head Type Adjustable Torque Wrench

Direction

Assembly **Adjustable** **Interchangeable** **Graduation** RoHS

- Specialized version of CL
- Accepts DIN interchangeable head connection

SCL50N-9×12

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Head Size [mm]	Overall Length [mm]	Weight [kg]
SCL25N5-9×12 NEW	5-25	0.2	9×12	226	0.3
SCL50N-9×12	10-50	0.5	9×12	239	0.37
SCL100N-9×12	20-100	1	9×12	313	0.52
SCL200N-14×18	40-200	2	14×18	464	1.2

Note
1. Overall length does not include interchangeable head.
2. Applicable to European style head only. Tohnichi's interchangeable heads are not available for this model.
3. SCL25N5-9 × 12N is a yellow/black resin grip.

SCSP

European Style Interchangeable Head Type Preset Torque Wrench

Direction

Assembly **Interchangeable** **Preset** RoHS

- Accepts DIN interchangeable head connection
- Specialized version of CSP

SCSP50N-9×12

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	[kgf·cm] Min.-Max.	Head Size [mm]	Overall Length [mm]	Weight [kg]
SCSP25N-9×12	5-25	50-250	9×12	204	0.15
SCSP50N-9×12	10-50	100-500	9×12	230	0.3
SCSP100N-9×12	20-100	200-1000	9×12	302	0.45
SCSP200N-14×18	40-200	400-2000	14×18	434	1

Note
1. Overall length does not include interchangeable head.
2. Applicable to European style head only. Tohnichi's interchangeable heads are not available for this model.

QSP

Ratchet Head Type Preset Torque Wrench

Direction

Assembly | Preset | Ratchet Head | RoHS

- No external scale, Torque value set using key & tester
- Ideal for mass production application

QSP100N4

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm/kgf·m] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
		kgf·cm				
QSP1.5N4	0.3-1.5	3-15	3-13	165	6.35	0.16
QSP3N4	0.6-3	6-30	6-25			
QSP6N4	1-6	10-60	10-50			0.19
QSP12N4	2-12	20-120	20-100	175		0.25
QSP25N3-1/4	5-25	50-250	50-200	215		0.25
QSP25N3						
QSP50N3	10-50	100-500	100-400	240	9.53	0.4
QSP100N4-3/8	20-100	200-1000	200-850	315		0.65
QSP100N4						
QSP140N3	30-140	300-1400	300-1000	380		0.7
QSP200N4	40-200	400-2000	350-1600	465	12.7	1.2
		kgf·m				
QSP280N3-1/2	40-280	4-28	350-2500	665		1.8
QSP280N3					19.05	
QSP420N	60-420	6-42	600-3600	970		3.1

Note
1. Adjusting tools for QSP and QSP3/QSP4 are different (see Optional Accessories). Adjusting tools are sold separately.
2. A torque wrench tester is necessary for torque setting. Specify required set torque when you order. (Ex. QSP100N4 × 80N·m)
3. QSP200N4-QSP420N have knurled handles.

QSP Optional Accessories

Thrustring Tool (P.46)

Part #	Tool #	Applicable Model
310	A-1	1.5N-6N
311	A-2	12N, 25N
312	A-3	50N-140N
313	A-4	200N-280N
314	A-5	420N

QSP3/QSP-MH Optional Accessories

931
930

314

Adjusting Tool (P.46)

Part #	Applicable Model
931	QSP1.5N4-12N4, QSP25N3 (-MH)
930	QSP50N3 (-MH)-280N3 (-MH) QSP100N4 (-MH), 200N4 (-MH)
314	QSP420N

NEW

Protective Head Cover

Refer to page 46.

QSPLS

RoHS

- QSP style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

Refer to page 29.

QSP-MH

Ratchet Head Type Preset Torque Wrench with Metal Handle

Direction

QSP100N4-MH

Assembly | Preset | Ratchet Head | RoHS

- Knurled metal handle version of QSP
- Ideal for oily working conditions

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
QSP25N3-MH	5-25	50-250	50-200	215	9.5	0.25
QSP50N3-MH	10-50	100-500	100-400	240		0.4
QSP100N4-MH	20-100	200-1000	200-850	315	12.7	0.65
QSP140N3-MH	30-140	300-1400	300-1000	380		0.7

Note
1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order. (Ex. QSP100N4-MH × 80N·m)
2. Adjusting tools for QSP-MH are sold separately.
3. Sockets are sold separately. Refer to page 41.

BQSP5

Bi-Directional Type Preset Torque Wrench

Direction

BQSP100N5

Assembly | Preset | Ratchet Head | Bi-Directional | RoHS

- Click for both CW & CCW applications
- Specialized version of QSP

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm/kgf·m] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
		kgf·cm				
BQSP25N5	5-25	50-250	50-200	214	9.5	0.20
BQSP50N5	10-50	100-500	100-400	242		0.40
BQSP100N5	20-100	200-1000	200-850	314	12.7	0.63
BQSP140N5	30-140	300-1400	300-1000	379		0.73
BQSP200N5	40-200	400-2000	350-1600	462		1.3
		kgf·m				
BQSP280N5	40-280	4-28	350-2500	665	19.0	2.4
BQSP420N5	60-420	6-42	600-3600	971		3.7

Note
1. **Initial torque setting is required. Specify required set toque when you order** (Ex. BQSP50N5 × 30N·m)
2. BQSP25N5-BQSP140N5 have resin grips.
3. BQSP200N5-BQSP420N5 have knurled handles.
4. Adjusting tools for BQSP5 are sold separately.
5. Sockets are sold separately. Refer to page 41.

BQSP5 Optional Accessories

931
930

314

Adjusting Tool (P.46)

Part #	Applicable Model
931	BQSP25N5
930	BQSP50N5-BQSP280N5
314	BQSP420N5

CSP

Interchangeable Head Type Preset Torque Wrench

Direction

Assembly | Preset | Interchangeable | RoHS

- Interchangeable head version of QSP
- No external scale, Torque value set using key & tester

CSP100N3×15D

Accuracy ±3%

Tohnichi Head Size	Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm/kgf·m] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Weight [kg]
			kgf·cm			
8D	CSP1.5N4×8D	0.3-1.5	3-15	3-13	130	0.2
	CSP3N4×8D	0.6-3	6-30	6-25		
	CSP6N4×8D	1-6	10-60	10-50	165	
	CSP12N4×8D	2-12	20-120	20-100		
10D	CSP25N3×10D	5-25	50-250	50-200	195	
12D	CSP50N3×12D	10-50	100-500	100-400	215	0.3
	CSP50N3×15D	10-50	100-500	100-400	220	
15D	CSP100N3×15D	20-100	200-1000	200-850	290	0.45
	CSP140N3×15D	30-140	300-1400	300-1000	350	0.55
19D	CSP200N3×19D	40-200	400-2000	350-1600	430	1.0
			kgf·m			
22D	CSP280N3×22D	40-280	4-28	350-2500	625	1.4
	CSP420N×22D	60-420	6-42	600-3600	920	2.7

Note

1. Overall length does not include interchangeable head.
2. Adjusting tools for CSP and CSP3/CSP4 are different. (see Optional Accessories)
3. Interchangeable heads are optional.
4. A torque wrench tester is necessary for torque setting. Specify required set torque when you order. (Ex. CSP100N3×15D × 80N·m)
5. CSP200N3×19D-CSP420N×22D have knurled handles.

CSP Optional Accessories

Thrustring Tool (P.46)

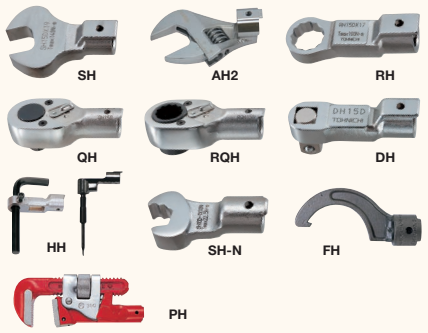
Part #	Tool #	Applicable Model
310	A-1	1.5N-6N
311	A-2	12N, 25N
312	A-3	50N-140N
313	A-4	200N-280N
314	A-5	420N

CSP Optional Accessories

Adjusting Tool (P.46)

Part #	Applicable Model
931	CSP1.5N4-12N4, 25N3 (-MH)
930	CSP50N3 (-MH)-280N3 (-MH)
314	CSP420N

Interchangeable Head



CSPLS

RoHS

- CSP style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

Model
CSPMS12N4×8D
CSPLS25N3×10D
CSPLS50N3×12D
CSPLS50N3×15D
CSPLS100N3×15D
CSPLS140N3×15D
CSPLS200N3×19D
CSPLS280N3×22D
CSPLS420N×22D

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

CSP-MH

Interchangeable Head Type Preset Torque Wrench with Metal Handle

Direction

Assembly | Interchangeable | Preset | RoHS

- Knurled metal handle version of CSP
- Ideal for oily working conditions

CSP100N3×15D-MH

Accuracy ±3%

Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Weight [kg]
CSP25N3×10D-MH	5-25	50-250	50-200	195	0.2
CSP50N3×12D-MH	10-50	100-500	100-400	215	0.3
CSP50N3×15D-MH				220	
CSP100N3×15D-MH	20-100	200-1000	200-850	290	0.45
CSP140N3×15D-MH	30-140	300-1400	300-1000	350	0.55

Note

1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order. (Ex. CSP100N3×15D-MH × 80N·m)
2. Adjusting tools for CSP-MH are sold separately.
3. Sockets are sold separately. Refer to page 41.

BCSP5

Bi-Directional Interchangeable Head Type Preset Torque Wrench

Direction

Assembly | Preset | Interchangeable | Bi-Directional | RoHS

- Click for both CW & CCW applications
- Specialized version of CSP

BCSP100N5×15D

Accuracy ±3%

Tohnichi Head Size	Model	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm/kgf·m] Min.-Max.	Torque Range [lbf·in] Min.-Max.	Overall Length [mm]	Weight [kg]
			kgf·cm			
10D	BCSP25N5×10D	5-25	50-250	50-200	195	0.20
12D	BCSP50N5×12D	10-50	100-500	100-400	215	0.23
	BCSP50N5×15D	10-50	100-500	100-400	220	
15D	BCSP100N5×15D	20-100	200-1000	200-850	290	0.57
	BCSP140N5×15D	30-140	300-1400	300-1000	350	0.62
19D	BCSP200N5×19D	40-200	400-2000	350-1600	430	1.2
			kgf·m			
22D	BCSP280N5×22D	40-280	4-28	350-2500	625	2.0
	BCSP420N5×22D	60-420	6-42	600-3600	920	3.7

Note

1. **Initial torque setting is required. Specify required set toque when you order** (Ex. BCSP100N5×15D × 80N·m)
2. Overall length does not included interchangeable head. Interchangeable heads are optional.
3. BCSP25N5×10D-BQSP140N5×15D have resin grips.
4. BCSP200N5×19D-BCSP420N5×22D have knurled handles.
5. Adjusting tools for BCSP5 are sold separately.
6. Sockets are sold separately. Refer to page 41.

BCSP5 Optional Accessories

Adjusting Tool (P.46)

Part #	Applicable Model
931	BCSP25N5
930	BCSP50N5-BCSP280N5
314	BCSP420N5

SP·SP2/-MH
RSP·RSP2/-MH

Open End/Ring Head Type Preset Torque Wrench

Assembly **Preset** Open End Spanner ·····SP·SP2/-MH **Ring Head** ·····RSP·RSP2/-MH

- Various sizes of open end or ring heads fixed on wrench
- Ideal for specific bolt size application

Direction

RoHS

SP38N×10

RSP38N×14

RoHS

SP38N×10-MH

RSP120N2-MH

Accuracy ±3%

Model (Body Size × Width)		Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
SP	SP-MH					
SP2N×5.5	-	0.4-2	4-20	23×5	180	0.15
SP2N×7	-					
SP2N×8	-					
SP2N×10	-					
SP2N×12	-			25×5.5	185	
SP2N×13	-					
SP2N×17	-			28×6	190	
SP2N×19	-			29×8	195	
SP8N×7	-	1.5-8	15-80	23×5	180	
SP8N×8	-					
SP8N×9	-					
SP8N×10	-					
SP8N×12	-			25×5.5	185	
SP8N×13	-					
SP8N×19	-			29×8	195	
SP8N×24	-			34×8		
SP8N×27	-			40×8	200	
SP19N×10	SP19N×10-MH	3.5-19	35-190	27×6.5	210 (206)	0.2
SP19N×11	SP19N×11-MH					
SP19N×12	SP19N×12-MH			30×6.5		
SP19N×13	SP19N×13-MH					
SP19N×14	SP19N×14-MH					
SP19N×17	SP19N×17-MH			31×8		
SP19N×19	SP19N×19-MH			33×8	220 (216)	
SP19N×21	SP19N×21-MH			35×8		
SP19N-1×10	SP19N-1×10-MH			24×12		
SP19N-2×10	SP19N-2×10-MH			24×20	215 (211)	
SP19N-3×10	SP19N-3×10-MH			24×15		
SP38N×8	SP38N×8-MH	8-38	80-380	31×8	250 (245)	0.35
SP38N×9	SP38N×9-MH				255 (250)	
SP38N×10	SP38N×10-MH					
SP38N×11	SP38N×11-MH			35×8	250 (245)	
SP38N×12	SP38N×12-MH				255 (250)	
SP38N×13	SP38N×13-MH					
SP38N×14	SP38N×14-MH					
SP38N×16	SP38N×16-MH			38×8		
SP38N×17	SP38N×17-MH					
SP38N×19	SP38N×19-MH					
SP38N×22	SP38N×22-MH			41×8		
SP38N×24	SP38N×24-MH			43×8	270 (265)	
SP38N×27	SP38N×27-MH			45×8		
SP38N-1×10	SP38N-1×10-MH			24×12		
SP38N-2×10	SP38N-2×10-MH			25×20	250 (245)	
SP38N-3×10	SP38N-3×10-MH			24×15		
SP67N×14	-	13-67	130-670	45×10	320	0.5
SP67N×16	-					
SP67N×17	-					
SP67N×18	-					
SP67N×19	-					
SP67N×21	-				325	
SP67N×22	-					
SP67N×24	-			46×11	330	
SP67N×27	-			50×11		
SP67N×29	-					
SP67N×30	-			52×11	335	
SP67N×32	-			54×11		
SP67N×33.3	-			57×11		
NEW SP120N2×14	SP120N2×14-MH	24-120	240-1200	42×10	360 (359)	0.75
NEW SP120N2×17	SP120N2×17-MH			45×10	362 (361)	
NEW SP120N2×18	SP120N2×18-MH			46×10	364 (364)	
NEW SP120N2×19	SP120N2×19-MH			47×10	365 (364)	
NEW SP120N2×21	SP120N2×21-MH			50×10	368 (367)	
NEW SP120N2×22	SP120N2×22-MH					
NEW SP120N2×23	SP120N2×23-MH			51×11	369 (368)	
NEW SP120N2×24	SP120N2×24-MH					
NEW SP120N2×27	SP120N2×27-MH			53×12	370 (369)	
NEW SP120N2×30	SP120N2×30-MH			55×14	373 (373)	
NEW SP160N2×19	SP160N2×19-MH	30-160	300-1600	50×10		
NEW SP160N2×21	SP160N2×21-MH			51×12	368 (367)	
NEW SP160N2×22	SP160N2×22-MH			52×12		
NEW SP160N2×24	SP160N2×24-MH			53×12	369 (369)	
NEW SP160N2×26	SP160N2×26-MH			55×12	373 (373)	
NEW SP160N2×27	SP160N2×27-MH					

Accuracy ±3%

Model (Body Size × Width)		Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
SP	SP-MH					
NEW SP160N2×41	SP160N2×41-MH	30-160	300-1600	70×14	386 (386)	0.75
NEW SP220N2×19	SP220N2×19-MH	45-220	450-2200	53×13	448 (447)	1.3
NEW SP220N2×22	SP220N2×22-MH			56×13	451 (450)	
NEW SP220N2×24	SP220N2×24-MH			58×13	453 (452)	
NEW SP220N2×27	SP220N2×27-MH			61×13	456 (455)	
NEW SP220N2×29	SP220N2×29-MH			63×13	458 (458)	
NEW SP220N2×30	SP220N2×30-MH				460 (460)	
NEW SP220N2×32	SP220N2×32-MH			65×13	464 (464)	
NEW SP220N2×34	SP220N2×34-MH			67×15	463 (463)	
NEW SP220N2×36	SP220N2×36-MH			72×15	468 (467)	
NEW SP310N2×22	SP310N2×22-MH	65-310	650-3100	60×14	647 (646)	1.8
NEW SP310N2×24	SP310N2×24-MH			62×14	648 (647)	
NEW SP310N2×27	SP310N2×27-MH			65×14	651 (650)	
NEW SP310N2×30	SP310N2×30-MH			68×14	654 (653)	
NEW SP310N2×32	SP310N2×32-MH			70×14	655 (654)	
NEW SP310N2×41	SP310N2×41-MH			80×15	670 (670)	
NEW SP310N2×46	SP310N2×46-MH			85×15	671 (671)	
SP420N×27	-	90-420	900-4200	78×18	840	3.3
SP420N×30	-					
SP420N×32	-					
SP420N×34	-					
SP420N×35	-					
SP420N×36	-					
SP560N×30	-	130-560	1300-5600	81×19	995	4
SP560N×32	-			83×19		
SP560N×36	-			87×19	1000	
SP560N×46	-			97×19	1005	4.5
SP560N×55	-			104×19	1010	

Accuracy ±3%

Model (Body Size × Width)		Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
RSP/RSP2	RSP2-MH					
RSP8N×8		2-7.2	20-72	15×6	200	0.15
RSP8N×10		2-9.0	20-90	17.5×7	205	
RSP19N×8		4-14.1	40-141	15×6	230	0.2
RSP19N×10		4-21	40-122	17.5×7		
RSP19N×13			40-210	22×7	235	
RSP38N×10		9-24.2	90-242	17.5×7	275	0.35
RSP38N×12		9-29.5	90-295	20.5×8		
RSP38N×13				21.5×8		
RSP38N×14		9-42	90-420	23.5×9	280	
RSP38N×16				26×9		
RSP38N×17				27.5×9		
RSP67N×14		14-59	140-590	25×10	350	0.45
RSP67N×16				27×10		
RSP67N×17		14-73	140-730	29×12		
RSP67N×18				29.5×12		
RSP67N×19				30×12		
NEW RSP120N2×17	RSP120N2×17-MH	24-100	250-1000	29.4×12	393 (393)	0.8
NEW RSP120N2×18	RSP120N2×18-MH			30.6×12	394 (393)	
NEW RSP120N2×19	RSP120N2×19-MH	24-120	250-1270	31.8×13	394 (394)	
NEW RSP120N2×21	RSP120N2×21-MH			34×13	396 (396)	
NEW RSP120N2×22	RSP120N2×22-MH			35×13	396 (396)	
NEW RSP160N2×19	RSP160N2×19-MH	30-160	320-1700	32.8×13	395 (394)	0.9
NEW RSP160N2×21	RSP160N2×21-MH			34×13	396 (395)	
NEW RSP160N2×22	RSP160N2×22-MH			35×13	396 (396)	
NEW RSP160N2×24	RSP160N2×24-MH			38×15	398 (397)	
NEW RSP220N2×22	RSP220N2×22-MH	45-220	480-2300	38.4×13	480 (479)	1.5
NEW RSP220N2×24	RSP220N2×24-MH			40×13	481 (480)	
NEW RSP220N2×27	RSP220N2×27-MH			45×13	483 (482)	
NEW RSP310N2×24	RSP310N2×24-MH	65-255	680-2550	41.8×15	678 (678)	2
NEW RSP310N2×27	RSP310N2×27-MH	65-310	680-3200	45×15	680 (680)	
NEW RSP310N2×30	RSP310N2×30-MH			50×15	682 (681)	

Note

1. The value shown in ( ) in the "Overall Length" shows the length of SP-MH models.
2. Due to a variety of SP/RSP models, please specify required inner width, model name and set torque when you order. (Ex. RSP38N×10 × 16N·m)

SP·SP2·RSP·RSP2/-MH Optional Accessories

Thrustring Tool / Adjusting Tool (P.46)

SP-H

Torque Wrench for Piping Work

Direction

SP38N×19H

Assembly **Preset** **Open End Spanner** RoHS

- Made with smaller outside width to work in narrow spaces, including hydraulic piping, where current open-end type is unable to access.
- Aligned with appropriate inner widths commonly used for hydraulic piping applications.

Accuracy ±3%

Model (Body Size × Width)	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Minimum Piping Pitch [mm]	Head Dimension (O.W. × Thickness) [mm]	Overall Length [mm]	Weight [kg]
SP38N×14H	8-25	80-250	26	26.3×8	248	0.35
SP38N×19H	8-39	80-390	35	33.1×8	249	
SP67N×27H	13-67	130-670	46	43.6×11	321	0.5
SP120N2×32H-MH	24-120	240-1200	54	51.6×15	392	0.75

Note
1. Confirm the minimum piping pitch before you order.
2. A torque wrench tester is necessary for torque setting. Specify required set torque when you order. (Ex. SP38N×14H × 25N·m)
3. SP120N2×32H-MH is a knurled handle. Others are resin handles.

Thrustring Tool (P.46)

Part #	Tool #	Applicable Model
312	A-3	SP38N, 67N-H
930	-	SP120N2×32H-MH

SP-N/SP-N-MH

Direction

Notched Head Type Preset Torque Wrench

SP19N-1×10N

SP19N-1×10N-MH

Assembly **Preset** **Notched Head** RoHS

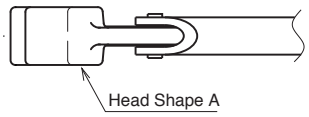
- Notch creates speed in tightening process.
- Ideal for brake lines

Accuracy ±3%

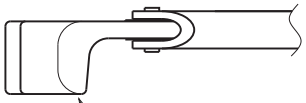
Model (Body Size × Width) SP-N	Model (Body Size × Width) SP-N-MH	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Head Dimension O.W. × Thickness [mm]	Head Dimension Head Shape	Overall Length [mm]	Weight [kg]
SP19N-1×10N	SP19N-1×10N-MH			24×12			
SP19N-3×10N	SP19N-3×10N-MH			24×15	A		
SP19N-4×10N	SP19N-4×10N-MH	3.5-19	35-190	24×10		215 (211)	0.2
SP19N-5×10N	SP19N-5×10N-MH			24×15	B		
SP19N-9×10N	SP19N-9×10N-MH			24.5×10	A		
SP38N×14N	SP38N×14N-MH	8-38	80-380	35×8		253.5 (248.5)	0.35

Note
A torque wrench tester is necessary for torque setting. Specify required set torque when you order. (Ex. SP19N-1×10N × 15N·m)

SPLS-N/SPLS-N-MH



Head Shape A



Head Shape B

- SP-N style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

Accuracy ±3%

Model (Body Size × Width) SP-N	Model (Body Size × Width) SP-N-MH	Torque Range [N·m] Min.-Max.	Torque Range [kgf·cm] Min.-Max.	Head Dimension O.W. × Thickness [mm]	Head Dimension Head Shape	Overall Length [mm]	Weight [kg]
SPLS19N-1×10N	SPLS19N-1×10N-MH			24×12			
SPLS19N-3×10N	SPLS19N-3×10N-MH			24×15	A		
SPLS19N-4×10N	SPLS19N-4×10N-MH	3.5-19	35-190	24×10		215 (211)	0.2
SPLS19N-5×10N	SPLS19N-5×10N-MH			24×15	B		
SPLS19N-8×10N	SPLS19N-8×10N-MH			24×12			
SPLS19N-9×10N	SPLS19N-9×10N-MH			24.5×10	A		

Note
The curl cord length of SPLS19N-8×10N is about 5m in full extension. Others are extended to about 2m in full extension.

NSP100CNx8

Direction

Break-Over Torque Wrench

NSP100CN×8

Assembly **Preset** **Open End Spanner** **Break-Over** RoHS

- Ideal for SMA connector tightening
- 90 degree of “breaking” upon reaching the set torque to reduce the possibility of over-torque

Accuracy ±5%

Model (Body Size × Width)	Torque Range [cN·m] Min.-Max.	Head Dimension [mm]	Overall Length [mm]	Weight [kg]
NSP100CN×8	50-100	16×4	128	0.33

Note
A torque wrench tester is necessary for torque setting. Specify required set torque when you order.

NSP Optional Accessories

Thrustring Tool (P.46)

Part #	Applicable Model
310	NSP100CN×8

QSPCA Slip Type Torque Wrench

Direction

Assembly | Preset | Ratchet Head | Slip Type | RoHS

- Cam action mechanism generates a 45 degree “slip” action.
- No torque variation by gripping point
- Conforms to the Electrostatic Discharge (ESD) standard

Model	Torque Range Min.-Max. [N·m]	Torque Range Min.-Max. [kgf·cm]	Torque Range Min.-Max. [lbf·in]	Overall Length [mm]	Square Drive [mm]	Weight [kg]	Accuracy [%]
QSPCA6N	2-6	20-60	20-50	197	6.35	0.33	±6%
QSPCA12N	4-12	40-120	40-100				±4%
QSPCAMS6N	2-6	20-60	20-50			0.45	±6%
QSPCAMS12N	4-12	40-120	40-100				
QSPCA30N	10-30	100-300	90-270	267	9.53	0.64	
QSPCA70N	20-70	200-700	180-620	346		1.24	±4%
QSPCALS30N	10-30	100-300	90-270	267		0.81	
QSPCALS70N	20-70	200-700	180-620	346		1.41	

Note

1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order. (Ex. QSPCA6N × 5N·m)
2. Adjusting tools for QSPCA are sold separately.
3. Limit Switch specifications are AC30V below 1A, DC30V below 1A.
4. Standard curl cord can be extended to about 2m in full extension.
5. Female connector for LS cable is sold separately. Part# WA5219K.
6. QSPCA70N and QSPCALS70N have knurled handles.

QSPCA6N

QSPCA30N

QSPCA70N

QSPCA Optional Accessories

Adjusting Tool (P.46)

931
930

Part #	Applicable Model
931	QSPCA6N, QSPCAMS6N QSPCA12N, QSPCAMS12N
930	QSPCA30N, QSPCALS30N QSPCA70N, QSPCALS70N QSPCAFH30N, QSPCAFH70N

QSPCAMS/ QSPCALS

- QSPCA style with Limit Switch output
- Ideal for torque verification (Pokayoke) assembly processes

RoHS

QSPCAMS6N

QSPCAMS12N

QSPCALS30N

QSPCALS70N

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold separately

QSPCAFH

- QSPCA style with wireless error-proofing (Pokayoke) torque system

RoHS

Model
QSPCAFH30N
QSPFAFH70N

QSPCAFH30N

QSPCAFH70N

Note

Refer to page 30 for condition of wireless equipment in each country.

YCL2 Two Step Motion Torque Wrench

Direction

Assembly | Adjustable | Interchangeable | Graduation | Two Step Motion | RoHS

- Two step motion prevents over-torque.
- Suitable for assembly of critical parts
- Easy torque setting by graduation
- Heads types can be easily exchanged.

YCL90N2×15D

Accuracy ±3%

Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Max Hand Force [N]	Effective Legthe [mm]	Overall Length [mm]	Weight [kg]
								lbf·in	lbf·in				
10D	YCL10N2×10D	5-10	0.10	100YCL2	50-100	1	YCL100I	50-100	1	46.5	215	245	0.35
	YCL20N2×10D	10-20	0.20	200YCL2	100-200	2	YCL200I	100-200	2	93			
12D	YCL40N2×12D	20-40	0.25	400YCL2	200-400	2.5	YCL400I	200-400	2.5	145.5	275	309	0.53
	YCL70N2×12D	35-70	0.50	700YCL2	350-700	5	YCL600I	300-600	5	254.5			
15D	YCL90N2×15D	45-90	0.25	900YCL2	450-900	2.5	YCL750I	400-750	2.5	236.8	380	414	1.05
	-	-	-	-	-	-	YCL1000I	600-1000	5				
								lbf·ft	lbf·ft				
	YCL140N2×15D	70-140	0.50	1400YCL2	700-1400	5	YCL100F	45-100	0.5	368.4		414	1.05
19D	YCL180N2×19D	90-180		1800YCL2	900-1800		-	-	-	310	579	607	1.75
	-	-	-	-	-	-	YCL150F	80-150	0.5				

Note

Not for inspection purposes

CPT-G

Direction

PRO TORK (Digital Torque Wrench for Tightening)

Assembly | Digital | Interchangeable | Signal | Battery | RoHS

- Highly responsive to the applied torque value with indicator display
- Equipped with bright LED lamp indicating current torque level
- 5 changeable units of measure through keypad set up
- Data memory, torque set registration and output functions

PRO TORK™

CPT50×12D-G

CPT100×15D-G

"Torque Wrench Only" Models

Accuracy ±3%

Model	Torque Range										Overall Length	Weight
	[N·m]		[kgf·cm]		[kgf·m]		[lbf·in]		[bf·ft]			
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	[mm]	[kg]
CPT20×10D-G	4-20	0.02	40-200	0.2	0.4-2	0.002	36-180	0.2	3-14.5	0.02	280.5	0.63
CPT50×12D-G	10-50	0.05	100-500	0.5	1-5	0.005	100-440	0.5	7.5-36	0.05	282.5	0.65
CPT100×15D-G	20-100	0.1	200-1000	1	2-10	0.01	200-880	1	15-73	0.1	384.5	0.85
CPT200×19D-G	40-200	0.2	400-2000	2	4-20	0.02	360-1700	0.2	30-150	0.2	475.5	1.37
CPT280×22D-G	56-280		560-2800		5.6-28		500-2400		42-200		591.5	1.76

Note

1. "Torque Wrench Only" version is provided in basic carton product box and does not include TQH Head, Batteries, Storage Case, or Product Box.
2. "Overall Length" does not include the length of interchangeable head TQH.
3. "Weight" does not include the weight of interchangeable head TQH and batteries.
4. Approx. 230 different types of interchangeable heads are available and sold separately. Refer to Tohnichi's Torque Handbook or Product Catalog for additional information.

"Set" Models (including Accessories)

Model	Standard Accessory				
	Ratchet Head		Battery	Storage Case	Product Box
	Model	Sq. Drive [mm]			
CPT20×10D-G-SET	TQH10D	9.5			
CPT50×12D-G-SET	TQH12D		AA Alkaline	Small	Small
CPT100×15D-G-SET	TQH15D	12.7	Battery		
CPT200×19D-G-SET	TQH19D		(2pcs)	Large	Large
CPT280×22D-G-SET	TQH22D	19.0			

Note Recommendation: Use 2xAA Ni-MH batteries for longer continuous use.

CPT-G Common Specifications

Accuracy	±3% of indicated value
Tightening Direction	Clockwise/Counter clockwise
Display/Character Height	14 segment LCD 6 digits/7mm
	7 segment LCD 4 digits/3mm
Battery Life Indicator	4 steps
Number of Data Memory	50
Torque Setting Memory	Preset Tightening mode: 10 torque values to register
	Judgment Tightening mode: Up to 10 values of each Upper/Lower/Tightening direction
Basic Function	Auto power off (3 minutes)
	Auto memory/Reset
	Auto zero
	Over torque alarm
Power	AA battery × 2pcs
Continuous Use	Approx. 40 hours
Temperature in Use	0-40 Celsius below 85%RH (no condensation)

How to Order:

[Ex. 1] CPT100×15D-G-SET
* "Set" model version (with standard accessories)

[EX. 2] CPT200×19D-G
* "Torque Wrench Only" version (without standard accessories)

CPT-G Optional Accessories

844

Carrying Case (For "Set" model only)

Part #	Applicable Model Dimension [mm]	Weight [kg]
844	CPT20×10D-G to CPT100×15D-G (H170 × W500 × D100)	1.0
845	CPT200×19D-G, CPT280×22D-G (H170 × W740 × D100)	1.6

585

Connecting to CPT-G

Connecting Cable

Part #	Applicable Model
585	CPT-G → PC (D-Sub 9 Pin Female)

Data Processing Software

Model
EXCEL RECEIVER

Several different tightening modes available to cater to a variety of applications. Quick and accurate tightening while preventing errors.

Modes include:
Preset Tightening Mode, Judgment Tightening Mode, Peak/Run Modes
* Retightening/loosening torque is performed in the Peak Mode.

Preset Tightening Mode: Allows user to set the target torque with specific % of torque allowable beyond target, then the red LED moves towards the right to indicate the level of the applied torque. When it reaches the target torque range, the blue LED blinks and the buzzer signals tightening completion.

Judgment Tightening Mode: Allows user to set judgment ranges for lower/upper limit in the tightening operation. Upon tightening completion a judgment is made as torque value is stored in the memory.

Display example 1:
Preset Tightening Mode
(Red LED shows the level of the applied torque)

Display example 2:
Judgment Tightening Mode
(As torque is being applied prior to completion)

Display example 3:
Judgment Tightening Mode
(The case of exceeding target torque range)

CTA2 Digital Torque and Angle Wrench

Direction

CTA100N2×15D

CTA500N2×22D

Assembly | Digital | Interchangeable | Signal | Re-Chargeable | RoHS

- Snug and angle setting functions
- Buzzer/Light alerts to snug torque and angle completion
- Angle mode activates automatically, once snug torque is achieved.

Accuracy ±1%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Angle Measuring Range		Angle Accuracy	Overall Length [mm]	Weight [kg]
	Min.-Max.	1 digit		Min.-Max.	1 digit		Min.-Max.	1 digit	Min.-Max.	1 digit			
				kgf·cm	kgf·cm		lbf·in	lbf·in					
CTA50N2×12D	(2.5) 10-50	0.05	CTA50N2×12D-M	(25) 100-500	0.5	CTA50N2×12D-I	(25) 100-450	0.5				282	0.58
CTA100N2×15D	(5) 20-100	0.1	CTA100N2×15D-M	(50) 200-1000	1	CTA100N2×15D-I	(50) 200-900	1				384	0.63
							lbf·ft	lbf·ft					
-	-	-	-	-	-	CTA100N2×15D-F	(3.8) 15-75	0.1	0-999°	1°	±2°+1digit (Angular velocity is 30°/s - 180°/s when the bolt turned to 90°)	384	0.63
CTA200N2×19D	(10) 40-200	0.2	CTA200N2×19D-M	(100) 400-2000	2	CTA200N2×19D-F	(7.6) 30-150	0.2				475	0.78
CTA360N2×22D	(18) 72-360	0.4	CTA360N2×22D-M	(180) 720-3600	4	CTA360N2×22D-F	(13) 52-260	0.4				713	1.13
				kgf·m	kgf·m								
CTA500N2×22D	(25) 100-500	0.5	CTA500N2×22D-M	(2.5) 10-50	0.05	CTA500N2×22D-F	(18) 72-360	0.5				949	4.00
CTA850N2×32D	(43) 170-850	1	CTA850N2×32D-M	(4.3) 17-85	0.1	CTA850N2×32D-F	(31) 124-620	1				1387	5.14

Note

1. The value shown in ( ) shows the lowest snug torque. Accuracy cannot be guaranteed for snug torque set beyond the operative torque range.
2. Overall length does not include interchangeable head.
3. PH (Pipe wrench head) type interchangeable head cannot be used with this model.
4. CTA500N2×22D and CTA850N2×32D have knurled handles.

Standard Accessories Battery pack/BP-5, QH interchangeable head (P.44), Quick battery charger/BC-3-G (100-240V), Application PC software, cable/584

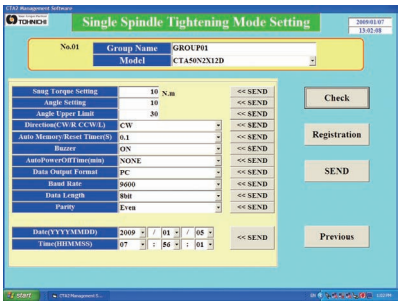
CTA2, Single Spindle Mode and Production Mode

CTA2 Features 2 Modes: Single Spindle and Production Modes

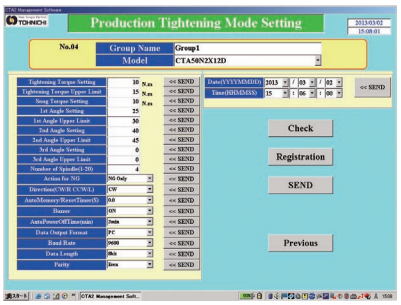
Single Spindle Tightening Mode: For angle method tightening of a single bolt tightening with snug torque, tightening angle and tightening angle upper limit settings.

Production Tightening Mode: For angle method tightening of multi spindle, with tightening torque, snug torque, 1st, 2nd and 3rd tightening angle, each upper limited angle, the numbers of spindles are registered.

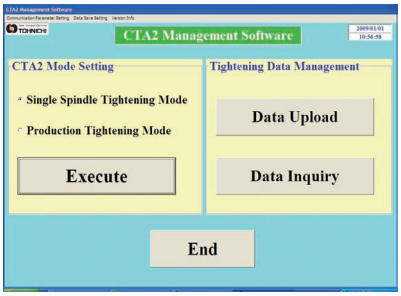
By using the included software package, various settings can be done through the PC and transferred to the wrench with the final tightening values being sent back to an Excel spreadsheet.



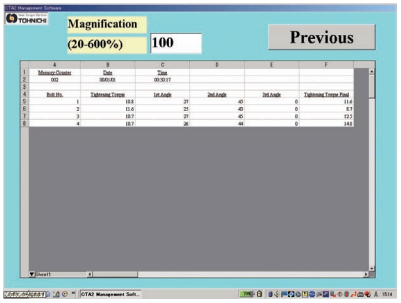
Single Mode Setting Display



Production Mode Setting



Main Menu



Production Mode Data Display

CTA2 Common Specifications

Data Memory	999 data (Tightening torque, 1st angle value, 2nd angle value, 3rd angle value and final torque value)
Measurement Mode	Single spindle/Production mode
Data Output	RS232C compliant
Zero Adjustment	Auto zero (Angle, Torque)
Power	Ni-MH rechargeable battery
Continuous Use	Approx. 20 hours with fully charged (8 hours by 1 hour recharging)
Recharging Time	Approx. 3.5 hours
Temperature in Use	0-40 Celsius no condensation

Other Functions	Snug torque, Tightening torque, Max. tightening torque, 1st, 2nd, 3rd angle, 1st, 2nd, 3rd max. angle, Number of bolts, Auto reset, Judgment, Setting through PC, Battery indicator

CTA2 Optional Accessories

Battery Pack (P.47)

Model
BP-5

Quick Battery Charger (P.47)

Model	Voltage
BC-3-G	100-240V

Printer (P.67)

Model
EPP16M3

Connecting Cable (P.47)

Part #	Applicable Models
575	CTA2 → PC, EPP16M3 (D-SUB 9 Pin Female)
584	CTA2 → PC (USB A Type)

Note

1. ( ) shows pin shape of the connecting cables.
2. Contact Tohnichi for other types of connecting cables.

Carrying Case (P.46)

Model	Dimension [mm]	Weight [kg]
846	50N2×12D, 100N2×15D [H170 × W500 × D100]	1.0
847	200N2×19D, 360N2×22D [H170 × W740 × D100]	1.6

DWQL Analog Torque with Digital Angle Module

DWQL100N

Assembly | Digital | Ratchet Head | Graduation | Signal | RoHS

- Easily apply snug torque with "click" followed by angle with integrated digital angle display.
- Digital angle starts once snug torque setting is achieved.
- Correct angle is calculated and shown even when ratcheting feature is used.

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Angle Range		Angle Accuracy	Overall Length	Weight
	Min.-Max.	Grad.	Min.-Max.	1 digit		[mm]	[kg]
DWQL50N	(5) 10-50	0.5	0-999°	1	±2°+1digit (Angular velocity is 30°/s-180°/s when the bolt is turned to 90°.)	260	0.62
DWQL100N	(10) 20-100	1				335	0.86
DWQL140N	(25) 30-140	2				400	1.00
DWQL200N	(30) 40-200					490	1.6
DWQL280N	(30) 40-280					695	2.2
DWQL420N	(40) 60-420					995	3.6

Note
1. The capacity values in the ( ) are minimum setting values for snug torque, but these values are not within guaranteed accuracy range.
2. A value in the ( ) might not be exact same when purchased M-DW is installed on LS torque wrench.
3. Certificates of calibration for both torque and angle are included.
4. Prior to use, confirm final applied torque value will not exceed max torque of the tool.

* M-DW shows 20° from snug torque.

M-DW Convert torque wrench with limit switch to angle torque wrench by installing M-DW.

Digital Angle Module

Model	Description
M-DW	Angle module for torque wrench with limit switch

Note
1. M-DW can be installed on torque wrench with limit switch except for the following models: QSPCALS, ALS, ACLS, MS type torque wrench, SPLS8N, and RSPLS8N. Refer to page 29.
2. Operate within torque range of installed torque wrench.
3. Cerlificate of angle calibration is attached.

M-DW Specifications

Range of Angle	0-999°
1digit	1°
Angle Accuracy	±2°+1digit (Angular velocity is 30°/s-180°/s when the bolt is turned to 90°.)
Display	7 segments LED, 3 digits/Character height 10mm
Continuous Operation	Approx. 60 hours
Environment	0-40°C Below 85%RH (no condensation)
Standard Accessories	Limit switch with connector 1 pc.
	Screw & Washer: 2 pcs. per each
	Operating instruction, AAA battery: 1 pc.
Weight	0.12kg

- Torque wrench with Limit Switch is converted to digital angle torque wrench.

WQL Analog Torque and Angle Wrench

Direction

WQL100N4

Assembly | Dial Indicating | Ratchet Head | Graduation | Angle Direct Reading | RoHS

- Includes built-in protractor with flexible arm
- Specialized version of QL

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Square Drive [mm]	Overall Length [mm]	Angle Scale	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			Max.	Grad.
				kgf·cm	kgf·cm		lbf·in	lbf·in				
WQL50N	(5) 10-50	0.5	450WQL3	(50) 100-500	0.5	450WQL3-A	(40) 100-400	5	9.5	260		
							lbf·ft	lbf·ft				
WQL100N4	(10) 20-100	1	900WQL4	(100) 200-1000	1	900WQL4-A	(7) 15-75	1	12.7	345	360°	2°
WQL200N4	(30) 40-200	2	1800WQL4	(300) 400-2000	2	1800WQL4-A	(20) 30-150	2		495		
				kgf·m	kgf·m							
WQL280N	(30) 40-280		2800WQL3	(3) 4-28	0.2	2800WQL3-A	(20) 30-200	2	19.0	695		
WQL420N	(40) 60-420		4200WQL2	(4) 6-42		4200WQL2-A	(30) 60-300	3		975		

Note
1. The capacity value in the ( ) are minimum setting value for snug torque, but this value is not within guaranteed accuracy range.
2. WQL Models are supplied upon request.

MPQL/MQL

Direction

Marking Torque Wrench

MPQL100N4

Marked bolts

Assembly | Pre-Lock | Ratchet Head | Graduation | Quick Drying Ink | RoHS

- Mechanism marks bolt as torque is achieved.
- Requires special socket, marker and ink

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in		
MPQL50N	10-50	0.5	450MPQL	100-500	5	450MPQL-A	100-400	5	246	0.7
							lbf·ft	lbf·ft		
MPQL100N4	20-100	1	900MPQL4	200-1000	10	900MPQL4-A	15-75	1	320	0.95
MPQL140N	30-140		1400MPQL	400-1400		1400MPQL-A	30-100		385	1.1
MPQL200N4	40-200		1800MPQL4	400-2000	20	1800MPQL4-A	30-150		418	1.8
		2		kgf·m	kgf·m			2		
MQL280N	40-280		2800MQL3	4-28	0.2	2800MQL3-A	30-200		692	2.6

Note Please choose a Tohnichi's original socket with width which matches your bolt size, and order it together with the torque wrench. Standard sockets can not be used.

Standard Accessories Hex key (for torque adjustment)

MQSP

Marking Torque Wrench

Direction

MQSP100N

Assembly | Preset | Ratchet Head | Quick Drying Ink | RoHS

- Mechanism marks bolt as torque is achieved.
- Preset style of MPQL

Accuracy ±3%

Model	Torque Range [cN·m] Min.-Max.	[kgf·cm] Min.-Max.	[lbf·in] Min.-Max.	Overall Length [mm]	Weight [g]
MQSP50N	10-50	100-500	100-400	240	0.7
MQSP100N	20-100	200-1000	100-750	315	1.0
MQSP140N	30-140	400-1400	300-1000	380	1.1
MQSP200N	40-200	400-2000	350-1600	465	1.8

Note

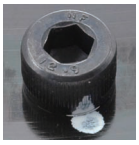
1. Please choose a Tohnichi original socket with width matches your bolt size, and order it together with the torque wrench. Standard sockets can not be used.
2. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order. (Ex. MQSP50N × 30N·m)
3. Adjusting tools for MQSP are sold separately.
4. MQSP200N has knurled handles.

CMQSP

Marking Torque Wrench

Direction

CMQSP-M8



Marked bolt head

Assembly | Preset | Ratchet Head | Quick Drying Ink | RoHS

- Preset style marking torque wrench for hex screws
- Mechanism marks side of bolt and work piece.

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Width Across Flat Min.-Max.	Overall Length [mm]	Weight [kg]
CMQSP-M6	5-25	5	241	0.85
CMQSP-M8	10-50	6		0.85
CMQSP-M10	20-100	8	320	1.13
CMQSP-M12	30-140	10	380	1.13

Note A torque wrench tester is necessary for torque setting. Specify required set torque when you order. (Ex. CMQSP-M10 × 50N·m)

Standard Accessories 2 x Hex wrench (including 1 spare), Marker head, Marker case, Hex wrench position adjustment tool

CMQSP Optional Accessories

Bit

Part #	Description
724	CMQSP-M6 Bit
725	CMQSP-M8 Bit
726	CMQSP-M10 Bit
727	CMQSP-M12 Bit

Marker Head

Part #	Description
792	Marker Head for CMQSP

Refill Ink and Solvent

Part #	Description
776	White Ink
777	Yellow Ink
794	Solvent

CMQSP Adjusting Adapter

Part #	Description	Applicable Tester
811	CMQSP-M6 Adapter	DOTE20N3-G, 50N3-G, 100N3-G
812	CMQSP-M8 Adapter	
813	CMQSP-M10 Adapter	DOTE200N3-G, 500N3-G
814	CMQSP-M12 Adapter	

CMQSP Adjusting Pole Holder

Part #	Applicable Model	Applicable Tester
815	CMQSP-M6, M8 Pole Holder	DOTE20N3-G, 50N3-G, 100N3-G
816	CMQSP-M10, M12 Pole Holder	DOTE200N3-G, 500N3-G

Note A torque wrench tester, Tohnichi's Adjusting Adapter, and Pole Holder are necessary for CMQSP torque adjustment.

CMQSP Adjusting Tool (P.46)

Part #	Applicable Model
930	CMQSP-M6, M8, M10, M12

MPQL/MQL/MQSP Optional Accessories

No.1700
No.1701
No.1702
No.1703
No.1712
No.1713
No.1714

No.1704
No.1705
No.1706
No.1707
No.1709
No.1710
No.1715
No.1716
No.1717

No.1720
No.1721
No.1722
No.1723

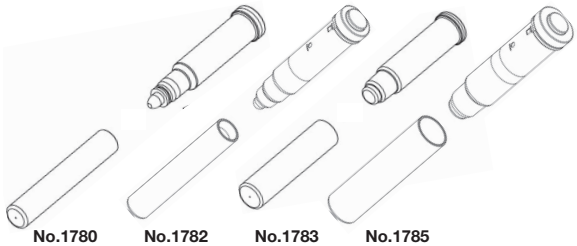
Socket

Model	Part #	Width Across Flat [mm]	Length H [mm]	Outside Width φd [mm]	Applicable Torque T-max [N·m]	Applicable Model
Socket 4MH-10	1700	10	100	17.5	25	MQSP/MPQL 50N-200N4
Socket 4MH-12	1701	12		20.5	35	
Socket 4MH-13	1702	13		21.5	40	
Socket 4MH-14	1703	14		22.5	60	
Socket 4MH-16	1704	16		25	70	
Socket 4MH-17	1705	17		28	110	
Socket 4MH-18	1706	18	105	29	120	
Socket 4MH-19	1707	19		30	170	
Socket 4MH-22	1709	22		30	190	
Socket 4MH-24	1710	24		32.8	200	
Socket 6MH-22	1720	22		32	255	MQL280N
Socket 6MH-24	1721	24	110	34.5	255	
Socket 6MH-27	1722	27		38.5	255	
Socket 6MH-30	1723	30		42	280	

Inch Size Socket

Model	Part #	Width AcrossFlat		Tmax [lbf·in] (N·m)	Length H [mm]	Outside Width φd [mm]	Applicable Model
		[inch]	[mm]				
Socket 4MH-7/16	1712	7/16	11.113	300(35)	100	20	MQSP/MPQL 50N-200N4
Socket 4MH-1/2	1713	1/2	12.7	400(45)		21	
Socket 4MH-9/16	1714	9/16	14.288	700(80)		23	
Socket 4MH-5/8	1715	5/8	15.875	800(90)		25.5	
Socket 4MH-11/16	1716	11/16	17.463	1000(120)	105	28.5	
Socket 4MH-3/4	1717	3/4	19.05	1500(170)		30	

Note Refill Ink and solvent are classified as hazardous material in Aviation law.

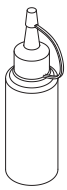


No.1780 No.1782 No.1783 No.1785

Marker Head

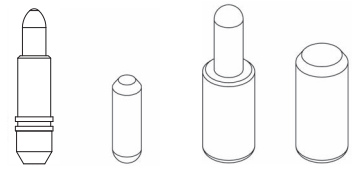
Model	Part #	Color
Marker Head MK53RB	1780	Red, Blue
Marker Head MK53WY	1782	White, Yellow
Marker Head MK93RB	1783	Red, Blue
Marker Head MK93WY	1785	White, Yellow

Note
1. Use W10-W16 sockets for MK53.
2. MK53 types have 5mm marking diameter.
   MK93 types have 9mm marking diameter.
3. Select a proper marking color for adapting to your bolt surface type.
   · Alkaline blackening (black finishing) → White, Yellow
   · Chromate coating, Trivalent chrome, Stainless steel → Blue, Red, White, Yellow.
4. Marker heads are not filled the ink.
   Select your necessary ink at the same time.

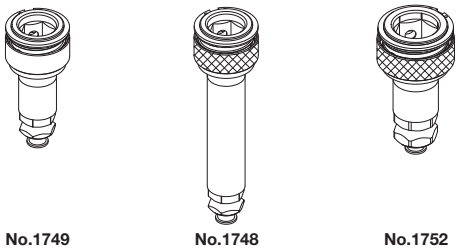


No.776
No.777
No.794

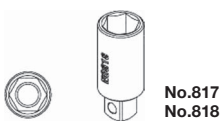
No.1770
No.1771



No.1775 No.775 No.1776 No.1777



No.1749 No.1748 No.1752



No.817
No.818

No.930

Refill Ink and Solvent

Model	Part #	Color
Refill Ink R	1770	Red
Refill Ink B	1771	Blue
Refill Ink W	776	White
Refill Ink Y	777	Yellow
Solvent	794	For White and Yellow

Note Solvent for red and blue inks is not available.

Replacement Tips

Model	Part #	Color
Felt tip for MK53RB	1775	Red, Blue
Felt tip for MK53WY	775	White, Yellow
Felt tip for MK93RB	1776	Red, Blue
Felt tip for MK93WY	1777	White, Yellow

Note Sold in pack of ten tips.

Extension Bar

Model	Part #	Applicable Model
MPQL Extension Bar 50mm	1749	MPQL50N-200N4
MPQL Extension Bar 100mm	1748	MQSP50N-200N
MQL Extension Bar 50mm	1752	MQL280N

MPQL/MQSP Torque Adjusting Adapter

Model	Part #	Applicable Model	Applicable Tester
MQSP 3/8-17 Adapter	817	MPQL50N MQSP50N	DOTE50N3
MQSP 1/2-17 Adapter	818	MPQL100N4-200N4 MQSP50N-200N	DOTE100N3 DOTE200N3

MQSP Adjusting Tool

Part #	Applicable Model
930	MQSP50N, 100N, 200N

Pokayoke, Error-Proofing System

■Counter Method

LS
(Wired)

Examples) QL/QLE2 (P.12), CL/CLE2 (P.13), TiQL/TiQLE (P.15), PQL (P.16), QRSP (P.15), PCL (P.17), QSP (P.18), QSPCA (P.22), CSP (P.19), SP·SP2/-MH (P.20), RSP·RSP2/-MH (P.20), SP-N/SP-N-MH (P.21), AUR (P.48), A/AC2 (P.50)


QLLS100N4


QSPCAMS12N

Control the number of tightening to eliminate missed tightening


SPLS38N×17


RTDLS120CN

Wired


CNA-4mk3
(Count Checker)


ACLS100N2

FH
(Wireless)


QLFH100N4

Wired


QSPCAFH30N


QLLS25N5
T-FHSLS256

Wireless


R-FH256
Receiver

Modified to...

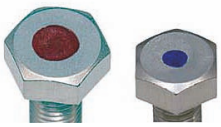

QLFHSLS25N5


HATFH

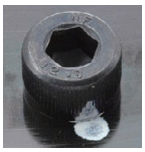
Examples) FH transmitter (P.30) mounted on torque wrench such as QL
Equipped with FH functions such as HATFH (P.48)
Note : Refer to page 30 for condition of wireless equipment in each country.

■Marking Method (P.26)


MPQL100N4




CMQSP-M8



Visually check the bolt marked to recognize torque tightening completion

Torque Wrench with Limit Switch

- Various types of torque wrenches with limit switch output
- Limit switch counts the number of "Clicks".
- Tool is connected to PLC or Tohnichi's Count Checker (CNA-4mk3)
- Can be upgraded into wireless output system (FH256MC)
- Ideal for torque verification assembly processes.

QLLS25N5

QLLS100N4

Limit switch specifications
AC30V Below 1A
DC30V Below 1A

SPLS38N×17

QL type with LS RoHS

S.I. Model	Metric Model
QLMS2N-MH	20QLMS-MH
QLMS5N-MH	50QLMS-MH
QLMS10N-MH	100QLMS-MH
QLMS10N	100QLMS
QLMS15N	150QLMS
QLMS15N-MH	150QLMS-MH
QLLS25N5	225QL5LS
QLLS50N	450QL3LS
QLLS100N4	900QL4LS
QLLS140N	1400QL3LS
QLLS200N4	1800QL4LS
QLLS280N	2800QL3LS
QLLS420N	4200QL2LS

CL type with LS RoHS

S.I. Model	Metric Model
CLMS2N×8D-MH	20CLMS-MH
CLMS5N×8D-MH	50CLMS-MH
CLMS10N×8D-MH	100CLMS-MH
CLMS10N×8D	100CLMS
CLMS15N×8D	150CLMS
QLMS15N×8D-MH	150CLMS-MH
CLLS25N5×10D	225CL5LS
CLLS50N×12D	450CL3LS
CLLS100N×15D	900CL3LS
CLLS140N×15D	1400CL3LS
CLLS200N×19D	1800CL3LS
CLLS280N×22D	2800CL3LS
CLLS420N×22D	4200CL2LS

SP, SP-MH type with LS RoHS

Model (Body Size × Width)	
SPLS	SPLS-MH
SPLS8N×7	-
SPLS8N×8	-
SPLS8N×9	-
SPLS8N×10	-
SPLS8N×12	-
SPLS19N×10	SPLS19N×10-MH
SPLS19N×11	SPLS19N×11-MH
SPLS19N×12	SPLS19N×12-MH
SPLS19N×13	SPLS19N×13-MH
SPLS19N×14	SPLS19N×14-MH
SPLS19N×17	SPLS19N×17-MH
SPLS19N×19	SPLS19N×19-MH
SPLS19N×21	SPLS19N×21-MH
SPLS19N-1×10	SPLS19N-1×10-MH
SPLS19N-2×10	SPLS19N-2×10-MH
SPLS19N-3×10	SPLS19N-3×10-MH
SPLS38N×8	SPLS38N×8-MH
SPLS38N×9	SPLS38N×9-MH
SPLS38N×10	SPLS38N×10-MH
SPLS38N×11	SPLS38N×11-MH
SPLS38N×12	SPLS38N×12-MH
SPLS38N×13	SPLS38N×13-MH
SPLS38N×14	SPLS38N×14-MH
SPLS38N×16	SPLS38N×16-MH
SPLS38N×17	SPLS38N×17-MH
SPLS38N×19	SPLS38N×19-MH
SPLS38N×22	SPLS38N×22-MH
SPLS38N×24	SPLS38N×24-MH
SPLS38N×27	SPLS38N×27-MH
SPLS38N-1×10	SPLS38N-1×10-MH
SPLS38N-2×10	SPLS38N-2×10-MH
SPLS38N-3×10	SPLS38N-3×10-MH
SPLS67N×14	-
SPLS67N×16	-
SPLS67N×17	-
SPLS67N×18	-
SPLS67N×19	-
SPLS67N×21	-

QSP type with LS RoHS

Model
QSPMS12N4
QSPLS25N3
QSPLS50N3
QSPLS100N4
QSPLS140N3
QSPLS200N4
QSPLS280N3
QSPLS420N

CSP type with LS RoHS

Model
CSPMS12N4×8D
CSPLS25N3×10D
CSPLS50N3×12D
CSPLS50N3×15D
CSPLS100N3×15D
CSPLS140N3×15D
CSPLS200N3×19D
CSPLS280N3×22D
CSPLS420N×22D

QRSP type with LS RoHS

Model
QRSPLS38N×17
QRSPLS38N×19
QRSPLS38N×21
QRSPLS38N×24

SP, SP-MH type with LS RoHS

Model (Body Size × Width)	
SPLS / SPLS2	SPLS2-MH
SPLS67N×22	-
SPLS67N×24	-
SPLS67N×27	-
SPLS67N×29	-
SPLS67N×30	-
SPLS67N×32	-
SPLS67N×33.3	-
NEW SPLS120N2×14	SPLS120N2×14-MH
NEW SPLS120N2×17	SPLS120N2×17-MH
NEW SPLS120N2×18	SPLS120N2×18-MH
NEW SPLS120N2×19	SPLS120N2×19-MH
NEW SPLS120N2×21	SPLS120N2×21-MH
NEW SPLS120N2×22	SPLS120N2×22-MH
NEW SPLS120N2×23	SPLS120N2×23-MH
NEW SPLS120N2×24	SPLS120N2×24-MH
NEW SPLS160N2×19	SPLS160N2×19-MH
NEW SPLS160N2×21	SPLS160N2×21-MH
NEW SPLS160N2×22	SPLS160N2×22-MH
NEW SPLS160N2×24	SPLS160N2×24-MH
NEW SPLS160N2×26	SPLS160N2×26-MH
NEW SPLS160N2×27	SPLS160N2×27-MH
NEW SPLS220N2×19	SPLS220N2×19-MH
NEW SPLS220N2×22	SPLS220N2×22-MH
NEW SPLS220N2×24	SPLS220N2×24-MH
NEW SPLS220N2×27	SPLS220N2×27-MH
NEW SPLS220N2×29	SPLS220N2×29-MH
NEW SPLS220N2×30	SPLS220N2×30-MH
NEW SPLS220N2×32	SPLS220N2×32-MH
NEW SPLS220N2×34	SPLS220N2×34-MH
NEW SPLS220N2×36	SPLS220N2×36-MH
NEW SPLS310N2×22	SPLS310N2×22-MH
NEW SPLS310N2×24	SPLS310N2×24-MH
NEW SPLS310N2×27	SPLS310N2×27-MH
NEW SPLS310N2×30	SPLS310N2×30-MH
NEW SPLS310N2×32	SPLS310N2×32-MH
NEW SPLS310N2×41	SPLS310N2×41-MH
NEW SPLS310N2×46	SPLS310N2×46-MH

PQL type with LS RoHS

S.I. Model	Metric Model
PQLLS25N	225PQLLS
PQLLS50N	450PQLLS
PQLLS100N4	900PQL4LS
PQLLS140N	1400PQLLS
PQLLS200N4	1800PQL4LS
PQLLS280N	2800PQLLS
PQLLS420N	4200PQLLS

PCL type with LS RoHS

S.I. Model	Metric Model
PCLLS25N×10D	225PCLLS
PCLLS50N×10D	450PCLLS
PCLLS50N×12D	500PCLLS
PCLLS100N×15D	900PCLLS
PCLLS140N×15D	1400PCLLS
PCLLS200N×19D	1800PCLLS

TiQL type with LS RoHS

Model	Metric Model
TiQLLS180N	1800TiQLLS
TiLQLLS180N	1800TiLQLLS
TiEQLLS360N	3600TiEQLLS

QSPCA type with LS RoHS

Model
QSPCAMS6N
QSPCAMS12N
QSPCALS30N
QSPCALS70N

RSP type with LS RoHS

Model (Body Size × Width)	
RSPLS / RSP2LS	RSP2LS-MH
RSPLS8N×8	-
RSPLS8N×10	-
RSPLS19N×8	-
RSPLS19N×10	-
RSPLS19N×13	-
RSPLS38N×10	-
RSPLS38N×12	-
RSPLS38N×13	-
RSPLS38N×14	-
RSPLS38N×17	-
RSPLS67N×14	-
RSPLS67N×17	-
RSPLS67N×19	-
NEW RSPLS120N2×17	RSPLS120N2×17-MH
NEW RSPLS120N2×19	RSPLS120N2×19-MH
NEW RSPLS120N2×22	RSPLS120N2×22-MH
NEW RSPLS160N2×19	RSPLS160N2×19-MH
NEW RSPLS160N2×22	RSPLS160N2×22-MH
NEW RSPLS160N2×24	RSPLS160N2×24-MH
NEW RSPLS220N2×22	RSPLS220N2×22-MH
NEW RSPLS220N2×24	RSPLS220N2×24-MH
NEW RSPLS220N2×27	RSPLS220N2×27-MH
NEW RSPLS310N2×24	RSPLS310N2×24-MH
NEW RSPLS310N2×27	RSPLS310N2×27-MH
NEW RSPLS310N2×30	RSPLS310N2×30-MH

SP-N, SP-N-MH type with LS RoHS

Model (Body Size × Width)	
SPLS-N	SPLS-N-MH
SPLS19N-1×10N	SPLS19N-1×10N-MH
SPLS19N-3×10N	SPLS19N-3×10N-MH
SPLS19N-4×10N	SPLS19N-4×10N-MH
SPLS19N-5×10N	SPLS19N-5×10N-MH
SPLS19N-8×10N	SPLS19N-8×10N-MH
SPLS19N-9×10N	SPLS19N-9×10N-MH

Note

1. Refer to base model series for torque ranges and wrench specs.
2. Female connector for LS cable is sold separately. Part# WA5219K.
3. Standard curl cord can be extended to about 2m in full extension.
4. The curl cord length of SPLS19N-8×10N is about 5m in full extension.

FH256MC

Radio Frequency Torque Wrench System

- Wireless error-proofing (Pokayoke) torque system
- FHSS technology with universal 2.4GHz frequency band
- Wrench ID transfer functions to establish bolt tightening traceability
- Easily change frequency with wireless setting box (optional)

QLFH100N4

QLFH25N5

T-FH256MC

T-FHSLS256

R-FH256

SB-FH256

I/O-FH256

FH-COD

FH-MHD

FH-PCV

FH Torque Wrench Examples

QLFH/QLFHSLS FH transmitter mounted on QL

S.I. Model
QLFH25N5
QLFH50N
QLFH100N4
QLFH140N
QLFH200N4

SPFH/SPFHSLS FH transmitter mounted on SP

Model
SPFH38N×14
SPFH38N×27

QSPCAFH/QSPCAFHSLS FH transmitter mounted on QSPCA

Model
QSPCAFH30N
QSPCAFH70N

Transmitter RoHS

Model	Description	Dimension [mm]
T-FH256MC	Transmitter for FH256MC	W36 × D80 × H18
T-FHSLS256	Transmitter for LS type wrench	W32.4 × D56 × H22.3

Note T-FHSLS256 is a wireless transmitter module to be installed on LS type torque wrenches.

Receiver RoHS

All kinds of frequency groups (256 kinds) can be set in one receiver.

Model	Specification
R-FH256	Output: No-Voltage contact output (1a), RS232C Size: W150 × D210 × H51 (mm), Weight 1.7kg Power: AC100V-240V, 47-63Hz

Standard Accessories Dipole antenna

Setting Box RoHS

Wireless setting device for FH transmitter and receiver

Model	Specification
SB-FH256	Input: RS232C, Power: DC9V

Standard Accessories Dipole antenna

Multi I/O Box RoHS

Manage 4 tightening signals from receiver and output to external device

Model	Applicable Model	Specification
I/O-FH256	R-FH256	Output: No-Voltage contact output (1a) × 4, Power: AC100-240V

Antenna Extension Cord

Extends antenna from R-FH256 receiver to improve communication conditions

Model	Applicable Model	Specification
FH-COD	R-FH256	Cable Length: Approx. 9.5m

Magnetic Antenna Holder

Use this to fix the position of extended antenna

Model	Applicable Model	Specification
FH-MHD	R-FH256	Cable Length: Approx. 1.5m

Protective Cover

Put it on the transmitter (T-FH256MC and T-FHSLS256) to protect from physical damage.

Model	Applicable Model	Specification
FH-PCV	T-FH256MC	Material: Silcon Resin
FHSLS-PCV	T-FHSLS256	

Note
1. Transmission distance 10-20 meters
2. Refer to base model series for torque ranges and wrench specs.
3. Refer to condition of wireless equipment in each country.

Conditions of wireless equipment certification acquisition

Country	Authority	Acquisition condition
Japan	TELEC	FH256MC, FHSLS, FMA, FHD, FHDS, CEM3-G-BT, CEM3-G-BTM, ST2-BT, ST3-G-BT, STC2-G-BT
United States	FCC	FH256MC, FHSLS, FMA, FHD, FHDS, CEM3-G-BT, CEM3-G-BTM, ST2-BT, ST3-G-BT, STC2-G-BT
Canada	IC	FH256MC, FHSLS, FMA, FHD, FHDS, CEM3-G-BTM, ST3-G-BT, STC2-G-BT
EU	CE	FH256MC, FHSLS, FHD, CEM3-G-BT, CEM3-G-BTM, ST3-G-BT, STC2-G-BT
China	SRRC	FH256MC, FHSLS, FHD, CEM3-G-BT, CEM3-G-BTM
Thailand	NTC	FH256MC, FHSLS, FHD, FHDS, CEM3-G-BT, CEM3-G-BTM, ST2-BT, ST3-G-BT, STC2-G-BT
Malaysia	SIRIM	FH256MC, FHSLS, FHD, FHDS
Indonesia	SDPPI	FH256MC, FHSLS, FHD, FHDS
South Korea	KCC	FH256MC, FHDS
Taiwan	NCC	FH256MC, FHSLS, FHD, FHDS
Russia	FSB	FH256MC, FHD, FHDS, CEM3-G-BT
India	WPC	FH256MC
South Africa	ICASA	FH256MC

Note
1. All Tohnichi wireless equipment is authorized in Mexico and Vietnam,
2. Contact Tohnichi for other countries.

FMA

*the United States and Canada Only

Radio Frequency Torque Wrench System

R-FMA

- 900 MHz frequency wireless error-proofing torque system
- FHSS Technology decreases interference and increases signal capacity
- Transmission Distance 10-20 Meters (30-60 Feet)
- Easily change frequency with SB-FMA Controller Box

Transmitter, Receiver, and Setting Box

Model	Description	Specifications
T-FMA	Transmitter for R-FMA	900MHz (902.5MHz to 9027.5MHz) 250kHz interval, 80CH, Approx. 10 - 20m / 30 - 60 feet operating distance
R-FMA	Receiver for T-FMA	
SB-FMA	Setting box	

Note

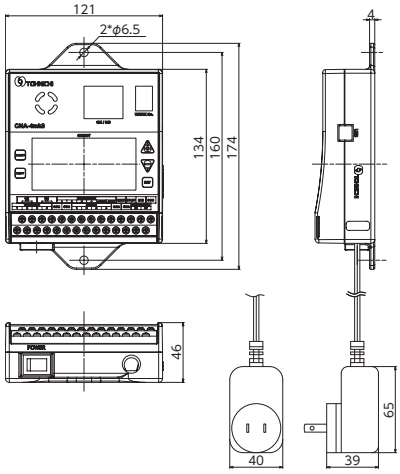
1. Radio frequency communication errors may be caused by noise or a shield placed between the transmitter and receiver. In addition, radio waves reflected by metal, concrete, etc. may interfere with radio waves directly sent to the antenna of the receiver and dead point occurs, resulting in communications errors.
2. Available only in the United States and Canada.

CNA-4mk3

CE

POKA Patrol
(Count Checker)

CNA-4mk3



Assembly **Digital** **Relay Counter** **Judgment** RoHS

- Torque tightening verification counter
- Max. 4 LS torque wrenches can be connected as one time.
- CNA-4mk3 easily establishes Pokayoke, error-proofing system at Low Cost.

Count Display	16 × 32 dot-matrix LEDs
OK/NG Judgment Display	30 × 25 square display lamp (commonly used for OK/NG) OK: Blue lamp turned on NG: Red lamp blinking + Buzzer sounds (4 patterns)
Work No. Selection Display	1-digit 7-segment LED
Count Input	Contact input × 4
Max. tightening number of bolts	99 counts
Max. number of works	8 sets
OK/NG judgment setting	• Preset judgment • END input judgment • Automatic judgment (0 to 300 seconds in steps of 1 second)
Output function	• OK/NG output (Relay contact output rating: 30 V DC, 1 A, 125 V AC, 0.3 A) • Torque wrench selection signal output (Open collector rating: 100 mA)
Input function	• SELECT input × 4 • START input • END input • RESET input • WORK SENSOR input
Timer function setting	• Double count prevention timer (0 to 10 seconds in steps of 0.1 second) • Automatic reset timer (0 to 60 seconds in steps of 1 second) • Interval warning timer (0 to 99 seconds in steps of 1 second)
Setting method	Special-purpose application software (USB communication), key operation
Working temperature range	0 ~ 40 [°C]
Working humidity	Below 85%RH (no condensation)
Electricity Consumption [W]	Below 10
Power supply AC [V]	100 ~ 240V ± 10% 50/60Hz
Weight	Approx. 400g

As tightening confirmation method, there is a counter method which is CNA-4mk3. CNA-4mk3 is designed for judging OK/NG as to the tightening number of bolts to prevent them from being left untightened.
Capable of building a variety of Pokayoke, Error-Proofing system.

Introduction of major functions of CNA-4mk3

■ Work Sensor Input
By connecting a detection sensor to this input, NG judgment can be made if the tightening work has moved from certain position without tightening.

■ Start Input
Newly added start input terminal to be able to receive operation start direction from proximity switch etc.

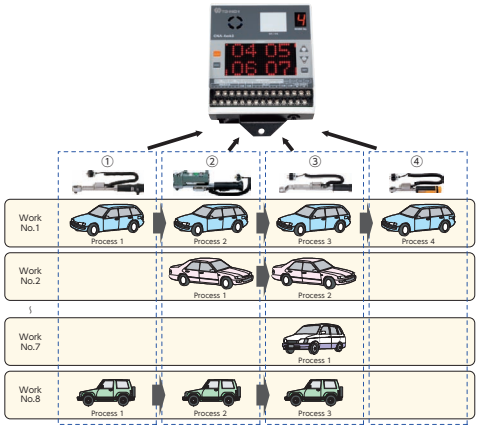
■ Interval Warning
Unless next tightening work is completed within a setting time, an alarm sounds to warn the operator.

■ Capable of Setting up to 8 Units of Work
No. of tightening bolts for up to 4 torque wrenches can be displayed on one unit.

■ Low Cost Error-Proofing System
For all-in-one specifications, easily setup error-proofing system with reasonable price.

■ Operation in Order or at random
In case of handling a variety of works with multiple torque wrenches, usage order can be set.

■ Case Example



Tightening Data Management System

Wired Data Transfer Torque Wrench
Model: CSPD and QSPD

Wired Data Transfer Semi-Automatic Airtork
Model: ACQSPD

Wired transfer of actual applied torque for complete verification of “click” wrench tightening

Model	Description	Figure	Display
CSPD	Wired Data Transfer Torque Wrench		 CD5 Refer to P.66.
ACQSPD	Wired Data Transfer Semi-Automatic Airtork		

Note
1. Interchangeable head is sold separately.
2. CSPD and QSPD models are supplied upon request.

Outline

Wired system features highly reliable transmitter mounted on a click torque wrench that captures actual applied torque data. CD-5 display shows actual tightening torque and judgment is made whether or not the torque is within the programmed hi/lo parameters. Connect to PLC and PC software to store and control data for increased tightening reliability.

System

Wired Data Transfer Torque Wrench
Model: CSPD with QH head

Wired transfer of actual tightening torque

CSPD * Interchangeable head is sold separately.

Wired

CD5
Refer to P.66.

OK/NG judgement
Red: NG Blue: OK

Wired

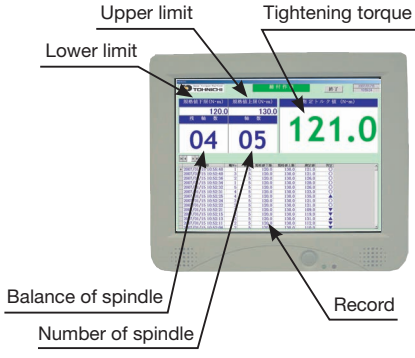
PC connecting cable/383
Refer to P.47.

Wired Data Transfer Semi-Automatic Airtork
Model: ACQSPD

Wired transfer of actual tightening torque with operation of provisional tightening

ACQSPD

Wired



External device PLC or PC

Tightening Data Management System

Wireless Data Transfer Torque Wrench
Model: FHD and FHDS

Wireless Data Transfer Semi-Automatic Airtork
Model: ACQSPFHDS

Wireless transfer of actual applied torque for complete verification of “click” wrench tightening

Model	Description	Figure	Receiver
FHDS	Wireless Data Transfer Torque Wrench (Without torque data display)		 Receiver R-FHD256
FHD	Wireless Data Transfer Torque Wrench (With torque data display)		
ACQSPFHDS	Wireless Data Transfer Semi-Automatic Airtork		

Note
1. Interchangeable head is sold separately.
2. FHD and FHDS models are supplied upon request.
3. Refer to page 30 for condition of wireless equipment in each country.

Outline

FHD system features highly reliable FHSS transmitter mounted on a click torque wrench that captures actual applied torque data. R-FHD256 receiver accepts signal and confirms back to wrench with “Answerback” system. Connection to PLC and PC software allows for management of fastener count, serial number, torque ID, and judgment parameters.

System

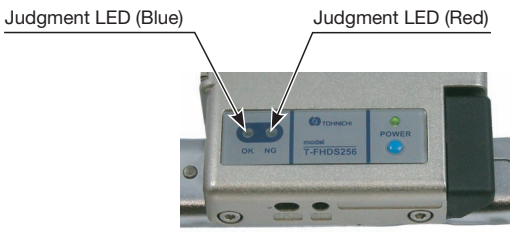
Wireless Data Transfer Torque Wrench
Model: CSPFHDS with QH head

Simplified small case version with extended battery life

CSPFHDS

WITHOUT Torque Display

* Interchangeable head is sold separately.



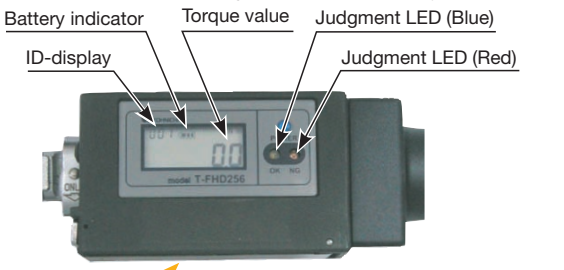
Wireless Data Transfer Torque Wrench
Model: CSPFHD with QH head

LCD transmitter display shows data for convenient user confirmation

CSPFHD

WITH Torque Display

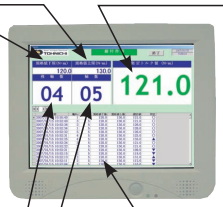
* Interchangeable head is sold separately.



Duplex communication (Wireless)

Duplex communication (Wireless)

Receiver R-FHD256



External device PLC or PC

Wireless Data Transfer Semi-Automatic Airtork
Model: ACQSPFHDS

Semi-Automatic Pneumatic version for quick rundown and final click torque confirmation with torque data transfer

ACQSPFHDS

Duplex communication (Wireless)

Tightening Data Management System

Wireless Digital Torque Wrench
Model: CEM3-G-BTD/Duplex communication

Ideal for managing tightening data in cell-production or sub-assembly lines

Merit

- Preventing tightening errors such as missed tightening and over torque by setting upper/lower limit on a digital torque wrench
- Traceable for product claims
- Managing actual applied torque value used in the assembly lines
- Reducing potential costs associated the additional checks and reworks

Outline

"CEM3-G-BTD" provides duplex wireless transfer of data between the wrench and PC. "CEM3-G-BTD + Management software" adds additional duplex functionality by sending set torque value, fastener quantity, and judgments to the wrench for various tightening applications. One digital torque wrench can replace several manual preset click torque wrenches with the additional benefit of storing the actual applied torque. Upper/Lower limit can be set on a digital torque wrench from PC with a duplex communication. As a result, reducing operative cost and time becomes possible.

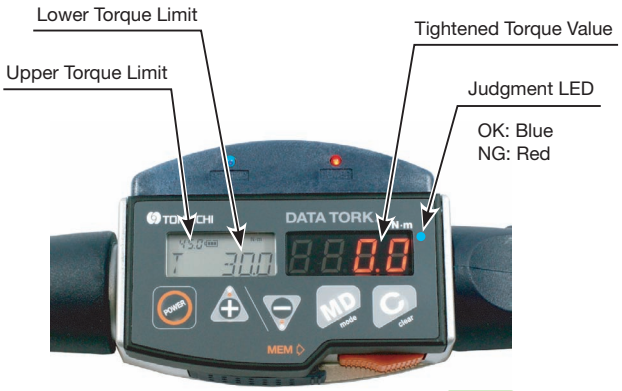
System

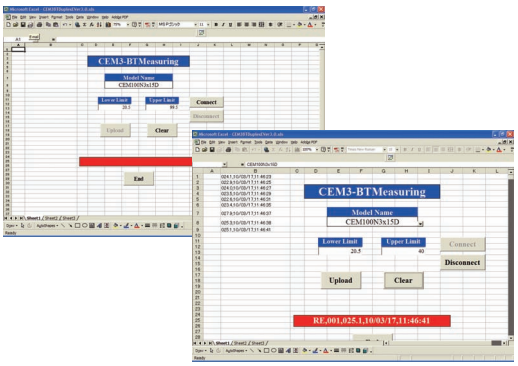
Instantly send tightened torque data back to PC

Wireless Digital Torque Wrench
CEM3-G-BTD

Duplex communication

Upper/Lower limit can be set wirelessly from PC to torque wrench.





RoHS

Bluetooth Specification	
Communication Method	Bluetooth
Radio Frequency Range	2.4GHz
Communication Distance	Approx. 10m
Continuous Use	Approx. 8 hours

Accuracy ±1%

Tohnichi Head Size	Model		Torque Range [N·m]		Overall Length	Weight
	Simplex Communication	Duplex communication	Min.-Max.	1 digit	[mm]	[kg]
8D	CEM10N3×8D-G-BTS	CEM10N3×8D-G-BTD	2-10	0.01	212	0.54
10D	CEM20N3×10D-G-BTS	CEM20N3×10D-G-BTD	4-20	0.02	214	0.55
12D	CEM50N3×12D-G-BTS	CEM50N3×12D-G-BTD	10-50	0.05	282	0.66
15D	CEM100N3×15D-G-BTS	CEM100N3×15D-G-BTD	20-100	0.1	384	0.71
19D	CEM200N3×19D-G-BTS	CEM200N3×19D-G-BTD	40-200	0.2	475	0.86
22D	CEM360N3×22D-G-BTS	CEM360N3×22D-G-BTD	72-360	0.4	713	1.21
	CEM500N3×22D-G-BTS	CEM500N3×22D-G-BTD	100-500	0.5	949	4.08
32D	CEM850N3×32D-G-BTS	CEM850N3×32D-G-BTD	170-850	1	1387	5.22

Handy Terminal

HT-S5

Compact data collection device for CEM3-G-BT
- Upload & download torque measuring information
- Guides user through torque assembly & quality inspection processes
- Statistics and charting capabilities

Note

1. Overall length does not include interchangeable head.
2. Refer to pages 42-45 for details with interchangeable heads.
3. PH (Pipe wrench head) is not applicable due to difference of effective length.
4. Bluetooth adapter (optional) is necessary if your PC is not compatible.
5. Consult Tohnichi for management software (optional) for data setting and processing.
6. CEM3-G-BT models have two types.
   Simplex communication (BTS): CEM3-G-BT → Transfer measurement data to PC
   Duplex communication (BTD): Set torque and upper/lower limits in PC → CEM3-G-BT → Transfer measurement data to PC
7. Standard CEM3-G is unable to be modified into CEM3-G-BT.
8. Refer to page 30 for condition of wireless equipment in each country.

Standard Accessories Battery pack/BP-5, Quick charger/BC-3-G, QH interchangeable head (P.44)

Tightening Data Management System

Wireless Digital Torque Wrench
Models: HT-S5 & CEM3-G-BTS/Simplex communication
Software: TDMS

Ideal for tightening torque inspection.

The inspection data management becomes economically and easily possible with Excel®.

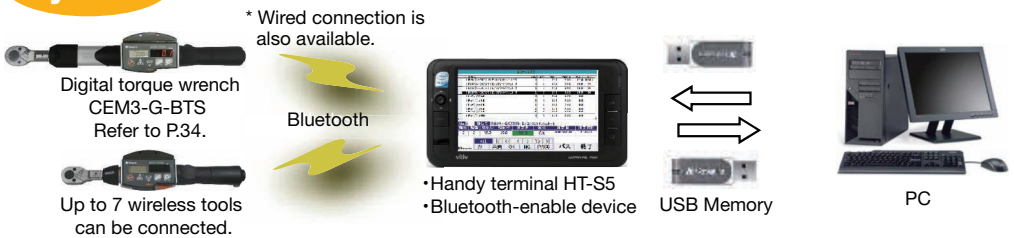
Merit

- Reduced overtime due to early detection such as overtorque and loosening torque.
- Monitored data can be used for proof in protection against product liability.
- The degree of wear and the tendency of the tools can be predicted.
- Preventing defects in a large quantity of products.

Outline

"CEM3-G-BTS" provides wireless transfer of data from the wrench to PC as it is being applied or collected.
All data can be managed in a master data file consisting of Excel® and torque data can be easily monitored and stored.
In order to maintain high quality, it is important to establish standard values, and then track and manage with statistical processing. Tightening work can be conducted with portion master file which can be controlled by Excel®. [N], [X-bar], [σ], [cp], and [cpk] are automatically calculated and stored in an Excel® file.

System



[Output Excel® Data Example]

- A data of [N], [X-bar], [σ], [cp], and [cpk] is monitored in Excel® file.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Count for Item												
2													
3	Item Name												
4	Sample Master												
5													
6	Portion Name	Number of Spindle	TI Low	TI High	N	Max	Min	R	Xbar	Sigma (n-1)	Sigma (n)	Cp	Cpk
7	RH Mount BKTXLH E/G Mount Insulator	1	15.0	20.0	4	19.4	16.5	2.9	17.7	1.22474487	1.06066017	0.68041382	0.62598071
8	RH Mount BKTXRH E/G Mount Insulator	1	10.0	15.0	4	21.6	13.6	8	17.55	3.38772293	2.93385412	0.24598627	-0.250906
9	Fr Hubnuts LH	2	12.0	17.0	8	21.0	13.5	7.5	16.1	2.21681883	2.07364414	0.37591405	0.13532906
10	Fr Hubnuts RH	2	12.0	17.0	5	16.5	14.1	2.4	15.48	0.91760558	0.82073138	0.90816071	0.216171

- More detailed information available.

	A	B	C	D	E	F	G	H	I
1	Data List for Portion								
2									
3	Item Name	Sample Master							
4	Portion Name	Fr Hubnuts LH							
5	Number of Spindle	2							
6	Spindle No.	ALL							
7	TI Low	12.0							
8	TI High	17.0							
9									
10	N	Max	Min	R	Xbar	Sigma (n-1)	Sigma (n)	Cp	Cpk
11	8	21.0	13.5	7.5	16.1	2.216818828	2.073644135	0.375914045	0.135329056
12									
13	Spindle No.	Mesured Torque	Judge	Date	Time				
14	1	15.6	OK	16/Oct/2012	17:23:20				
15	1	21.0	NG(H)	16/Oct/2012	17:37:02				
16	1	15.7	OK	16/Oct/2012	17:37:43				
17	1	13.5	OK	16/Oct/2012	17:38:11				
18	2	14.7	OK	16/Oct/2012	17:30:22				
19	2	15.2	OK	16/Oct/2012	17:37:06				
20	2	16.4	OK	16/Oct/2012	17:37:45				
21	2	16.7	OK	16/Oct/2012	17:38:13				

Model	Description	Language
TDMS	Software only	Japanese
TDMS-E		English
TDMS-C		Chinese
TDMSHT	Software + Handy Terminal/HT-S5	Japanese
TDMSHT-E		English
TDMSHT-C		Chinese

Note
1. Software installation is allowed on a single PC at one time.
2. Applicable digital torque wrench is CEM3-G-BTS. Refer to page 34.

System Requirements		
Operation System		Microsoft Windows XP (SP3)
		Microsoft Windows Vista 32bit (SP1)
		Microsoft Windows 7 32bit version
Recommended Hardware	CPU speed	300MHz
	CPU	Intel Pentium/Celeron, AMD K6/Athron/Duron
	RAM	126MB
	Hard Disk Capacity	2.1GB
	Display	Super VGA 800 × 600
	Drive	CD-ROM or DVD drive
	Communication	Bluetoothr (2.0+EDR) SSP profile compliant or SSP profile compliant module
	USB	USB2.0 × 1

Note

CEM3-G

DATA TORK (Digital Torque Wrench)

Direction

Inspection | Digital | Interchangeable | Direct Reading | Re-Chargeable | RoHS

- Dual LED & LCD displays for optimal viewing
- 999 memory storage capacity
- For inspection and tightening

CEM100N3×15D-G

TUD TOHNICHI UNIFIED DESIGN CE

CEM20N3×10D-G

CEM850N3×32D-G

Common Specifications

Display	7 segments LED 4 lines 10mm (Torque value)
	14 segments LCD 3 lines 7mm (Counter)
	7 segments LCD 4 lines 3mm (Clock)
	Battery life indicator (4 steps)
	Judgment LED RED/BLUE
Number of Data Memory	999 (M-2 mode: 99 data)
Communication Functions	RS232C (2400-19200bps)
	Serial output corresponding to a USB connecter
Power Supply	Ni-MH rechargeable battery
Continuous Use	Approx. 20 hrs with fully charged (8 hours by 1 hour recharging)
Recharging Time	Approx. 3.5 hours
Operation Temperature	0-40 Celsius no condensation
Basic Functions	Peak Hold, Auto memory & resetting, Tightening completion buzzer, Judgment of measured data, Auto zero setting, Auto off (3 minutes), Clock

Accuracy ±1%

Model	Torque Range										Hand Force	Overall Length	Weight
	N·m		kgf·cm		kgf·m		lbf·in		lbf·ft				
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	[N]	[mm]	[kg]
CEM10N3×8D-G	2-10	0.01	20-100	0.1	0.200-1.000	0.001	20.0-90.0	0.1	1.50-7.30	0.01	48.1	212	0.46
CEM20N3×10D-G	4-20	0.02	40-200	0.2	0.400-2.000	0.002	36.0-180.0	0.2	3.00-14.50	0.02	92.2	214	0.47
CEM50N3×12D-G	10-50	0.05	100-500	0.5	1.000-5.000	0.005	100.0-440.0	0.5	7.50-36.00	0.05	196.9	282	0.58
CEM100N3×15D-G	20-100	0.1	200-1000	1	2.00-10.00	0.01	200-880	1	15.0-73.0	0.1	275.5	384	0.63
CEM200N3×19D-G	40-200	0.2	400-2000	2	4.00-20.00	0.02	360-1700	2	30.0-150.0	0.2	428.3	475	0.78
CEM360N3×22D-G	72-360	0.4	720-3600	4	7.2-36.00	0.04	650-3100	4	52.0-260.0	0.4	498.6	713	1.13
CEM500N3×22D-G	100-500	0.5	1000-5000	5	10.00-50.00	0.05	890-4400	5	73.0-360.0	0.5	549.5	949	4.00
CEM850N3×32D-G	170-850	1	-	-	17.0-85.0	0.1	-	-	124-620	1	608	1387	5.14

Note

1. Overall length does not include interchangeable head.
2. For interchangeable head, refer to page 42-45.
3. For infrared data transfer, use with R-DT999 (Refer to page 66).
4. PH (Pipe wrench head) type interchangeable head is not available for this model.
5. CEM500N3×22D-G and CEM850N3×32D-G have knurled handles.
6. For USB data transfer, use with No. 584 connecting cable (Optional). Refer to page 47.

Standard Accessories

1. Battery pack/BP-5
2. QH interchangeable head. Refer to page 44.
3. Quick battery charger/BC-3-G (100-240V).

CEM3-P

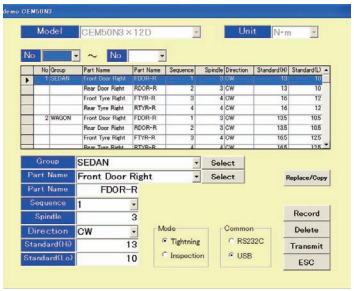
RoHS

- Programmable version of CEM3-G with data management software that links work name with test results.

Torque Accuracy	±1%
Portion Registration Memory	Max. 100 parts (Part name, number of screws, tightening direction, high/low torque, measuring order)
Measurement Data Storage	Up to 3,000 screw data (vary depending on parts registered), measurement part name, measured value, pass/fail judgment, measurement time and date)

CEM50N3×12D-P

Display part
Left: Part name, Right: Torque value



CEM3-P application software

Model
CEM10N3×8D-P
CEM20N3×10D-P
CEM50N3×12D-P

Model
CEM100N3×15D-P
CEM200N3×19D-P
CEM360N3×22D-P

Model
CEM500N3×22D-P
CEM850N3×32D-P

Handy Terminal

HT-S5

Compact data collection device for CEM3-G

- Upload & download torque measuring information
- Guides user through torque assembly & quality inspection processes
- Statistics and charting capabilities

Battery Pack (P.47)

Model
BP-5

Quick Battery Charger (P.47)

Model	Description
BC-3-G	100V-240V

Printer (P.67)

Model
EPP16M3

Connecting Cable (P.47)

Part #	Applicable Models
575	CEM3-G, CEM3-P, R-DT999 → PC, EPP16M3
584	CEM3-G, CEM3-P, R-DT999G → PC

Data Filing System (P.66)

Model	Media
DFS	CD-ROM

CTB2-G Digital Retightening Torque Wrench

Direction

Inspection | Digital | Interchangeable | Signal | Re-Chargeable | RoHS

- Detects movement of fastener for more accurate testing
- Software converts measured torque to initial tightening torque value.

CTB100N2×15D-G

CTB850N2×32D-G

Accuracy ±1%

Model	Torque Range										Hand Force [N]	Overall Length [mm]	Weight [kg]
	N·m		kgf·cm		kgf·m		lbf·in		lbf·ft				
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit			
CTB10N2×8D-G	2-10	0.01	20-100	0.1	0.2-1	0.001	20-90	0.1	1.5-7.3	0.01	48.1	212	0.46
CTB20N2×10D-G	4-20	0.02	40-200	0.2	0.4-2	0.002	36-180	0.2	3-14.5	0.02	92.2	214	0.47
CTB50N2×12D-G	10-50	0.05	100-500	0.5	1-5	0.005	100-440	0.5	7.5-36	0.05	196.9	282	0.58
CTB100N2×15D-G	20-100	0.1	200-1000	1	2-10	0.01	200-880	1	15-73	0.1	275.5	384	0.63
CTB200N2×19D-G	40-200	0.2	400-2000	2	4-20	0.02	360-1700	2	30-150	0.2	428.3	475	0.78
CTB360N2×22D-G	72-360	0.4	720-3600	4	7.2-36	0.04	650-3100	4	52-260	0.4	498.6	713	1.13
CTB500N2×22D-G	100-500	0.5	1000-5000	5	10-50	0.05	890-4400	5	73-360	0.5	549.5	949	4.00
CTB850N2×32D-G	170-850	1	-	-	17-85	0.1	-	-	124-620	1	608	1387	5.14

Note

1. Overall length does not include interchangeable head.
2. For interchangeable head, refer to page 42-45.
3. For infrared data transfer, use with R-DT999 (Refer to page 66).
4. PH (Pipe wrench head) type interchangeable head is not available for this model.

Standard Accessories

1. Battery pack/BP-5
2. QH interchangeable head (P.44).
3. Quick battery charger/BC-3-G (100V-240V).

Common Specifications

Data Memory	999 data (T-point torque)
Arithmetic Function	Sampling, Maximum, Minimum, Means
Measurement Mode	Peak/Run
Data Output	RS232C I/F, USB serial output
Zero Adjustment	Auto zero function (C key)
Other Function	Auto power off (3 min./10 min./30 min./non)
Power Source	Ni-MH Nickel metal-hydride battery
Continuous Use	Approx. 20 hours (8 hours by 1 hour charging)
Battery Charge	Approx. 3.5 hours
Operating Condition	0-40 Celsius

Battery Pack (P.47)

Model
BP-5

Quick Battery Charger (P.47)

Model	Description
BC-3-G	100-240V

Printer (P.67)

Model
EPP16M3

Connecting Cable (P.47)

Part #	Applicable Models
575	CTB2-G → PC, EPP16M3
584	CTB2-G, R-DT999G → PC

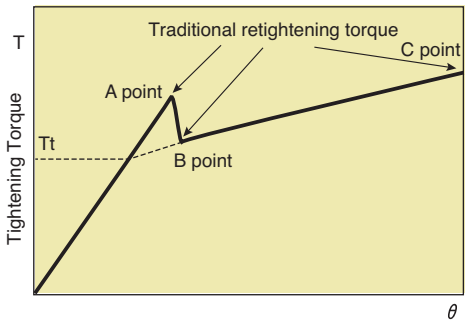
Data Filing System (P.66)

Model	Media
DFS	CD-ROM

Advantages of the New Retightening Method: T-point Method

- Anyone can measure the tightening torque easily.
- Requires less time to perform the measurement.
- Dispersion of data is small (Figure-3).
- No individual interpretation or performance variable is involved in measuring the torque (Figure-3).
- Internal software converts measured torque to initial tightening torque value (Figure-3).

Figure-1 Traditional retightening torque method



Retightening Torque Method

Retightening torque method aims to measure the torque at which a tightened bolt start to rotate again as further torque is applied. The retightening measured values are classified as one of these three kinds:

- The torque which overcome the static friction of the bolt (A point).
- The torque at which the bolt starts on turn continuously (B point).
- The maximum torque at this inspection (C point).

Proposal of T-point method (Figure-2)

Retightening torque first starts with the rotation of the head only, then the screw starts to rotate. Shifting from static friction to dynamic friction, the friction whip settles and the torque starts to increase at the steady pace again. T-point method figures TT as retightening torque value.

Figure-2 New retightening torque method by CTB2-G

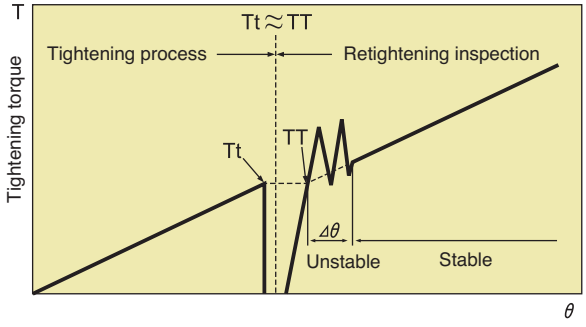
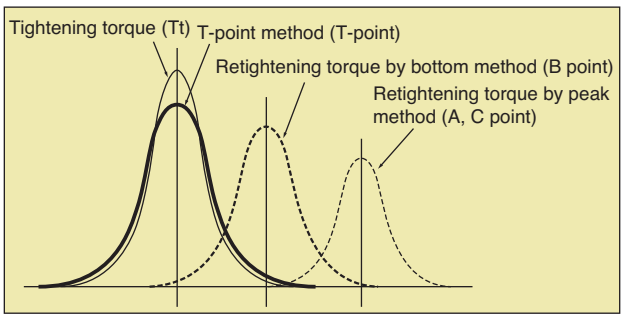


Figure-3 Distribution of retightening torque



Refer to Tohnichi Torque Handbook Vol. 8 on page 42 to 43 for the details.

DB/DBE/DBR

Direction Dial Indicating Torque Wrench

DB12N4

DB100N

DBE700N

Memory Pointer
(Red needle)

Inspection | Dial Indicating | Direct Reading | RoHS

- Memory pointer for easy torque reading
- Ideal for torque measuring and quality check applications

Accuracy ±3%

S.I. Model	Torque Range [N·m/kN·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in			
DB1.5N4-S	0.2-1.5	0.02	15DB4-S	2-15	0.2	DB13I-2AS	0-13	0.2			
DB3N4-S	0.3-3	0.05	30DB4-S	3-30	0.5	DB26I-2AS	0-26	0.5	205	6.35	0.4
DB6N4-S	0.6-6	0.1	60DB4-S	6-60	1	DB40I-2AS	0-40				
DB12N4-S	1-12	0.2	120DB4-S	10-120	2	DB75I-2AS	0-75	1			
DB25N-1/4-S	3-25	0.5	230DB3-1/4-S	30-250	5	DB150I-2AS	0-150	2	245	9.5	0.6
DB25N-S			230DB3-S			DB150I-3AS					
DB50N-S	5-50		450DB3-S	50-500		DB300I-3AS	0-300	5	320		
DB100N-3/8-S	10-100	1	900DB3-3/8-S	100-1000	10	DB600I-3AS	0-600	10	400	12.7	0.7
DB100N-S			900DB3-S			DB600I-4AS					
							lbf·ft	lbf·ft			
-	-	-	-	-	-	DB25F-3AS	0-25	0.5	320	9.5	0.6
-	-	-	-	-	-	DB50F-3AS	0-50		400		0.7
-	-	-	-	-	-	DB50F-4AS					
DB200N-S	20-200	2	1800DB3-S	200-2000	20	DB100F-4AS	0-100	1	500		
				kgf·m	kgf·m					12.7	1.0
-	-	-	-	-	-	DB175F-4AS	0-175	2	540		
DB280N-1/2-S	30-280	5	2800DB3-1/2-S	3-28	0.5	-	-	-	690	19.0	1.65
DB280N-S			2800DB3-S			DB250F-6AS	0-250	5			
DB420N-S	40-420		4200DB2-S	4-42		DB350F-6AS	0-350		890		2.5
DBE560N-S	50-560		5600DBE2-S	5-56		-	-	-	1100		4.0
DBE700N-S	70-700		7000DBE2-S	7-70		DB500F-6AS	0-500	10	1260		5.5
DBE850N-S	100-850	10	8500DBE2-S	10-85	1	-	-	-	1360		6.1
DBE1000N-S	100-1000	20	10000DBE2-S	10-100	2	DB800F-8AS	0-800	10	1490	25.4	6.4
DBE1400N-S	200-1400		14000DBE2-S	20-140		DB1000F-8AS	0-1000		1740		8.6
DBE2100N-S	200-2100		21000DBE2-S	20-210		DB1500F-8AS	0-1500	20	2140		12.8
DBE2800N-S	300-2800	50	28000DBE2-S	30-280		DB2000F-12AS	0-2000		2380		16.8
	kN·m	kN·m			5					38.1	
DBR4500N-S	0.5-4.5	0.05	45000DBR-S	50-450		DB3000F-12AS	0-3000	50	1285		26.5
DBR6000N-S	0.6-6	0.1	60000DBR-S	60-600		-	-	-	1585	44.5	27.5

Note

1. "Without memory pointer" models are available. Remove "-S" from the model name when ordering. (Ex. DB100N)
2. DBR models require winch or mechanical loading device.
3. DBR Models are supplied upon request.
4. For models having over 25.4mm square drive, use with a through-hole socket.
5. Accuracy of American models is warranted from 20% of max. torque.

DB Optional Accessories

846

Carrying Case (P.46)

Part #	Applicable Model Dimension [mm]	Weight [kg]
846	DB100N-S, CDB100N×15D-S or less (H170 × W500 × D100)	1.0
847	DB280N-S, CDB280N×22D-S or less (H170 × W740 × D100)	1.6

CDB-S

Direction

Interchangeable Head Type Dial Indicating Torque Wrench

CDB14N4×8D-S

CDB100N×15D-S

Inspection | Dial Indicating | Interchangeable | Direct Reading | Memory Pointer | RoHS

- Interchangeable head version of DB
- Ideal for torque measuring and quality inspections

Accuracy ±3%

Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
					kgf·cm	kgf·cm		lbf·in	lbf·in		
8D	CDB7N4×8D-S	0.7-7	0.1	70CDB4-S	7-70	1	70CDB4-A-S	6-60	1	215	0.45
	CDB14N4×8D-S	2-14	0.2	140CDB4-S	20-140	2	140CDB4-A-S	20-120	2		
10D	CDB25N×10D-S	3-25	0.5	250CDB-S	30-250	5	250CDB-A-S	30-220	5	255	0.48
12D	CDB50N×12D-S	5-50		500CDB-S	50-500		500CDB-A-S	40-430		330	0.53
								lbf·ft	lbf·ft		
15D	CDB100N×15D-S	10-100	1	1000CDB-S	100-1000	10	1000CDB-A-S	7-70	1	415	0.76
19D	CDB200N×19D-S	20-200	2	2000CDB-S	200-2000	20	2000CDB-A-S	14-140	2	525	1.0
					kgf·m	kgf·m					
22D	CDB300N×22D-S	30-300	5	3000CDB-S	3-30	0.5	3000CDB-A-S	20-220	5	720	1.65
	CDB420N×22D-S	40-420		4200CDB-S	4-42		4200CDB-A-S	30-300		920	2.7

Note
1. Overall length does not include interchangeable head.
2. PH (Pipe wrench head) type interchangeable head is not available for this model.
3. Interchangeable heads are optional.

SCDB-S

Direction

European Style Interchangeable Head Type Dial Indicating Torque Wrench

SCDB50N-S

Inspection | Dial Indicating | Interchangeable | Direct Reading | Memory Pointer | RoHS

- Specialized version of DB
- Accepts DIN interchangeable head connection

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Head Size [mm]	Overall Length [mm]	Weight [kg]
SCDB25N-9×12-S	3-25	0.5	9×12	271	0.48
SCDB50N-9×12-S	5-50		9×12	342	0.53
SCDB100N-9×12-S	10-100	1	9×12	422	0.76
SCDB200N-14×18-S	20-200	2	14×18	535	1

Note
1. Overall length does not include interchangeable head.
2. Applicable to European style head. Tohnichi's interchangeable heads are not available for this model.

T-S

Direction

T-Handle Dial Indicating Torque Wrench

T90N-S

Inspection | Dial Indicating | Direct Reading | Memory Pointer | RoHS

- Dual handle for increased stability
- Memory pointer for easy reading

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Neck Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in				
T23N-S	3-23	0.5	230T-S	30-230	5	T200I-3AS	20-200	2	205	71	9.5	0.41
T45N-S	5-45		450T-S	50-450		T400I-3AS	50-400	5	261	82		0.53
							lbf·ft	lbf·ft				
T90N-S	10-90	1	900T-S	100-900	10	T65F-4AS	10-65	1	376	102.5	12.7	0.8
T180N-S	20-180	2	1800T-S	200-1800	20	T130F-4AS	20-130	2	656	118.5		1.2
				kgf·m	kgf·m							
T700N-S	70-700	10	7000T-S	7-70	1	7000T-A-S	50-500	5	1300		19.0	4
T1000N-S	100-1000		10000T-S	10-100		10000T-A-S	50-700		1630			4.8
T1400N-S	200-1400	20	14000T-S	20-140	2	14000T-A-S	100-1000	10	1880		25.4	6.2
T2100N-S	200-2100		21000T-S	20-210		21000T-A-S	200-1500	20	2500			10
T2800N-S	300-2800	50	28000T-S	30-280	5	28000T-A-S	200-2000		2960		38.1	15.5
T4200N-S	400-4200		42000T-S	40-420		42000T-A-S	400-3000	50	3660			21.5

Note
1. T700N-S to T4200N-S models are supplied upon request.
2. For models having over 25.4mm square drive, use with a through-hole socket.

SF/F/FR

Beam Type Torque Wrench

Direction

SF6N

F92N

Inspection | Beam | Direct Reading | RoHS

- Direct reading torque wrench with scale plate
- For measuring and tightening applications

Accuracy ±3%

S.I. Model	Torque Range [cN·m/N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
	cN·m	cN·m		kgf·cm	kgf·cm		lbf·in	lbf·in			
SF40CN	8-40	2	4SF	0.8-4	0.2	4SF-A	0-3.4	0.2	115		0.04
SF70CN	10-70		7SF	1-7		7SF-A	0-6		135		0.05
	N·m	N·m									
SF1.5N	0.2-1.5	0.05	15SF	2-15	0.5	15SF-A	0-13	0.5	145	6.35	0.07
SF3N	0.5-3	0.1	30SF	5-30	1	30SF-A	0-26	1	175		0.09
SF6N	0.6-6	0.2	60SF	6-60	2	60SF-A	0-50	2	205		0.2
SF12N	2-12	0.5	120SF	20-120	5	120SF-A	0-100	5	235		0.25
F23N	3-23		230F	30-230		230F-A	0-200		295	9.5	0.4
F46N	5-46	1	460F	50-460	10	460F-A	0-400	10	355		0.6
							lbf·ft	lbf·ft			
F92N	10-92	2	920F	100-920	20	920F-A	10-66	2	400		0.95
F130N	20-130		1300F	200-1300		1300F-A	10-95		445	12.7	1.2
F190N	30-190		1900F	300-1900	50	1900F-A	25-135		490		1.5
		5		kgf·m	kgf·m			5			
F280N	50-280		2800F	5-28	0.5	2800F-A	30-200		565		2.2
F420N	70-420		4200F	7-42	1	4200F-A	30-300		825		3.5
		10		kgf·cm	kgf·cm					19.0	
F560N	100-560		5600F	1000-5600	100	5600F-A	50-400	10	945		4.0
F700N	100-700		7000F	1000-7000		7000F-A	50-500		1175		6.0
				kgf·m	kgf·m						
F850N	100-850		8500F	10-85		8500F-A	60-600		1410		7.8
F1000N	100-1000	20	10000F	10-100	2	10000F-A	70-700	20	1640		8.8
FR1050N	100-1050		10500FR	10-105		10500FR-A	100-750		835	25.4	8
FR1400N	200-1400		14000FR	20-140		14000FR-A	100-1000		981		11.5
FR2100N	300-2100	50	21000FR	30-210	5	21000FR-A	200-1500	50	1148		14.5
FR2800N	300-2800		28000FR	30-280		28000FR-A	200-2000		1292		20
FR4200N	400-4200	100	42000FR	40-420	10	42000FR-A	300-3000		1460	38.1	28
FR6000N	600-6000		60000FR	60-600		60000FR-A	400-4300		1624		30

Note

1. FR models are supplied upon request.
2. FR models require winch or mechanical loading device.
3. For models having over 25.4mm square drive, use with a through-hole socket.
4. Accuracy of American models is warranted from 20% of max. torque.

CSF/CF

Interchangeable Head Type Beam Type Torque Wrench

Direction

CSF7N×8D

CF25N×10D

Inspection | Beam | Interchangeable | Direct Reading | RoHS

- Interchangeable head version of SF/F
- For measuring and tightening applications

Accuracy ±3%

Tohnichi Head Size	S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Weight [kg]
		N·m	N·m		kgf·cm	kgf·cm		lbf·in	lbf·in		
8D	CSF7N×8D	1-7	0.2	70CSF	10-70	2	70CSF-A	10-60	2	220	0.2
	CSF14N×8D	2-14	0.5	140CSF	20-140	5	140CSF-A	20-120	5	250	0.25
10D	CF25N×10D	5-25	1	250CF	50-250	10	250CF-A	40-220	10	320	0.4
12D	CF50N×12D	10-50	2	500CF	100-500	20	500CF-A	80-420	20	380	0.6
								lbf·ft	lbf·ft		
15D	CF100N×15D	10-100		1000CF	100-1000		1000CF-A	6-70	2	435	1.0
19D	CF150N×19D	20-150		1500CF	200-1500	50	1500CF-A	15-110		480	1.3
			5		kgf·m	kgf·m			5		
22D	CF230N×22D	30-230		2300CF	3-23	0.5	2300CF-A	20-160		530	1.6
	CF420N×22D	70-420	10	4200CF	7-42	1	4200CF-A	30-300		725	3.1
32D	CF850N×32D	100-850	20	8500CF	42-85	2	8500CF-A	60-600	20	1260	7.1

Note

1. Overall length does not include interchangeable head.
2. Interchangeable heads are optional.

QF/QFR

Ratchet Head Beam Type Torque Wrench

Direction

QF120N

Inspection | Beam | Ratchet Head | Direct Reading | RoHS

- Fixed ratchet head flat beam style
- Ideal for working in narrow spaces

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Overall Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in			
QF60N	6-60	1	600QF	60-600	10	600QF-A	0-520	10	455	9.5	0.8
							lbf·ft	lbf·ft			
QF120N	10-120	2	1200QF	100-1200	20	1200QF-A	6-86	2	515	12.7	1.2
QF220N	30-220	5	2200QF	300-2200	50	2200QF-A	25-160		580		1.8
				kgf·m	kgf·m			5			
QF320N	40-320		3200QF	6-32		3200QF-A	40-230		655		2.6
QF420N	70-420	10	4200QF	7-42	1	4200QF-A	30-300		825	19.0	3.4
QF560N	100-560		5600QF	10-56		5600QF-A	50-400	10	950		4.3
QF700N	100-700		7000QF	10-70		7000QF-A	50-500		1170		6.5
QF850N	100-850		8500QF	10-85		8500QF-A	60-600		1400		8.5
QFR1050N	100-1050	20	10500QFR	10-105	2	10500QFR-A	100-750	20	845		8.5
QFR1400N	200-1400		14000QFR	20-140		14000QFR-A	100-1000		992	25.4	12.5
QFR2100N	300-2100	50	21000QFR	30-210	5	21000QFR-A	200-1500		1158		15.5
QFR2800N	300-2800		28000QFR	30-280		28000QFR-A	200-2000	50	1305		21
QFR4200N	400-4200	100	42000QFR	40-420	10	42000QFR-A	300-3000		1473	38.1	30
QFR6000N	600-6000		60000QFR	60-600		60000QFR-A	400-4300		1624		32

Note

1. QFR models are supplied upon request.
2. QFR models require winch or mechanical loading device.
3. For models having over 25.4mm square drive, use with a through-hole socket.

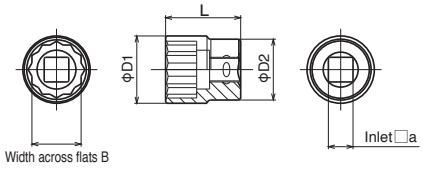
Interchangeable Socket RoHS

SOCKET FOR HAND TOOL

	From Torque Tool			
Inlet Drive (Female)	6.35	9.5	12.7	19.0
Width Across Flats (B)	2H	3H	4H	6H
From Bolt 8	201			
10	202	210		
12	203	211		
13	204	212		
14		213	220	
16		216	227	
17		214	221	
18		217	228	
19		215	222	
21			229	237
22			223	230
24			224	231
27			225	232
30			226	233
32				234
34				236
36				235
41				
46				
50				
55				

SOCKET

SOCKET FOR HAND TOOL



How to Order (Hand Tools)

SOCKET

Indicate model name and Part #

[Ex.] SOCKET 2H-10 202

Socket Inlet sign — Purpose sign — Width across flats — Part #

ADAPTER

Indicate model name and Part #

[Ex.] ADAPTER 2H-3 270

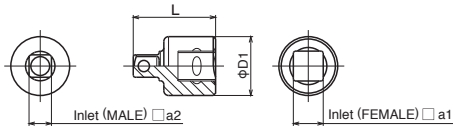
Inlet Sign (Female) — Purpose sign — Inlet sign (Male) — Part #

ADAPTER FOR HAND TOOL

		From Torque Tool			
Inlet Drive (Female)		6.35	9.5	12.7	19.0
Square Size (Male)		2H	3H	4H	6H
To Socket 6.3	(2)		271		
9.5	(3)	270		273	
12.7	(4)	277	272		275
19	(6)			274	
25.4	(8)				276

ADAPTER

ADAPTER FOR HAND TOOL

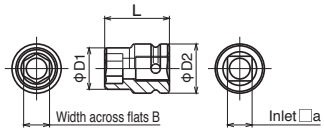


SOCKET FOR PNEUMATIC TOOL

	From Torque Tool		
Inlet Drive (Female)	9.5	12.7	25.4
Width Across Flats (B)	3P	4P	8P
From Bolt 10	250		
12	251		
13	252		
14	253	260	
16	255	264	
17	254	261	
18		265	
19		262	
21		266	
22		263	
32			303
34			304
36			305
41			306
46			307
50			308
55			309

SOCKET

SOCKET FOR PNEUMATIC TOOL



How to Order (Air Tools)

SOCKET

Indicate model name and Part #

[Ex.] SOCKET 3P-10 250

Socket Inlet sign — Purpose sign — Width across flats — Part #

ADAPTER

Indicate model name and Part #

[Ex.] ADAPTER 3P-4 290

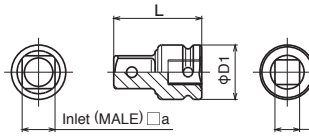
Inlet Sign (Female) — Purpose sign — Inlet sign (Male) — Part #

Note O-ring and pin are included.

ADAPTER FOR PNEUMATIC TOOL

		From Torque Tool			
Inlet Drive (Female)		9.5	12.7	19.0	25.4
Square Drive (Male)		3P	4P	6P	8P
From Bolt 9.5	(3)		291		
12.7	(4)	290		293	
19	(6)		292		295
25.4	(8)			294	

ADAPTER FOR PNEUMATIC TOOL

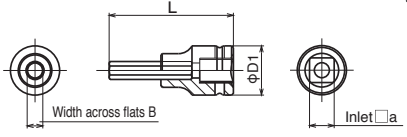


ADAPTER

SOCKET FOR POWER AND HAND TOOL

	From Torque Tool			
Inlet Drive (Female)	6.35	9.5	12.7	19.0
Width Across Flats (B)	2C	3C	4C	6C
From Bolt 2.5	430			
3	431	440		
4	432	441		
5		442		
6		443	450	
8			451	
10			452	
12			453	
14			454	460
17				461
19				462

SOCKET FOR HEX HEAD CAP SCREWS



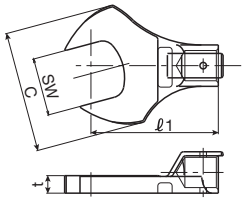
Note
1. O-ring and pin are included.
2. 430, 431, 432 are not through hole type.

Interchangeable Head

SH Open Spanner Head

RoHS

The SH type spanner heads suit for the place where sockets can not be used, for flare nuts in piping and for work in narrow places.



SH15D×19

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Outside Width C [mm]	Thickness t [mm]
	SH8D×5.5	1.5	15	13	3
	SH8D×6	2.5	25	15	3.5
	SH8D×7	3.5	35	17	4
	SH8D×8	7	70	20	4.5
	SH8D×10	14	140	25	
	SH8D×11			27	5.5
	SH8D×12				
8D	SH8D×13			29	
	SH8D×14				
	SH8D×16	15	150	31	
	SH8D×17			32	
	SH8D×19			35	6.5
	SH8D×21			36	
	SH8D×22			37	
	SH8D×24			38	
	SH10D×7				
	SH10D×8				
	SH10D×10	20	200	28	
	SH10D×11				
	SH10D×12				
	SH10D×13			32	
	SH10D×14				
10D	SH10D×16				6.5
	SH10D×17				
	SH10D×18	25	250	39	
	SH10D×19				
	SH10D×21				
	SH10D×22				
	SH10D×24			43	
	SH12D×8	7	70	20	
	SH12D×10	12	120	24	5
	SH12D×11	20.5	205	28	5.5
	SH12D×12	29.5	295	31	
	SH12D×13			32	6.5
	SH12D×14	59	590	38	8
12D	SH12D×16			40	10
	SH12D×17				
	SH12D×18			41	11
	SH12D×19	70	700		
	SH12D×21			43	
	SH12D×22				13
	SH12D×24			48	
	SH12D×27			52	
	SH15D×12				
	SH15D×13	59	590	38	8
	SH15D×14				
	SH15D×16				
15D	SH15D×17				
	SH15D×18				
	SH15D×19	140	1400	51	13
	SH15D×21				
	SH15D×22				

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Outside Width C [mm]	Thickness t [mm]
	SH15D×24				
	SH15D×26				
15D	SH15D×27	140	1400	60	12
	SH15D×30				
	SH15D×32				
	SH15D×36			68	
	SH19D×17				
	SH19D×18	200	2000		
	SH19D×19			54	13
	SH19D×21	180	1800		
	SH19D×22				
	SH19D×24	200	2000	60	15
19D	SH19D×27				
	SH19D×30	180	1800		
	SH19D×32				
	SH19D×34	200	2000	76	11
	SH19D×36				
	SH19D×41	180	1800		
	SH22D×19				
	SH22D×22	280	2800	63	
	SH22D×24	500	5000		
	SH22D×27			78	
	SH22D×30	420	4200		
22D	SH22D×32				15
	SH22D×34	500	5000		
	SH22D×36	420	4200	85	
	SH22D×41	280	2800		
	SH22D×46				
	SH22D×50	500	5000	103	
	SH22D×55			108	
	SH27D×22	255	2550	65	14
	SH27D×24	350	3500	72	15
	SH27D×27	490	4900	82	16
	SH27D×30	670	6700	88	19
27D	SH27D×32	750	7500	92	20
	SH27D×34	670	6700	90	
	SH27D×36			94	21
	SH27D×41	750	7500	98	22
	SH27D×46			100	24
	SH27D×50			103	26
	SH32D×27				
	SH32D×30	850	8500	105	18
	SH32D×32				
	SH32D×34				
32D	SH32D×36				
	SH32D×41			110	24
	SH32D×46	1200	12000		
	SH32D×50				
	SH32D×55			120	29
	SH32D×60				

Inch Size Models

Commonly used in the airline industry and for specific American product installation and maintenance.

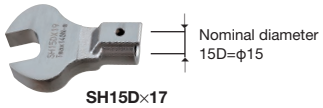
Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque N·m [lbf·in]	Outside Width C mm [in]	Thickness t mm [in]
	NEW SH8D×1/4	6.35	2.5 [22]	15 [0.59]	3.5 [0.14]
	NEW SH8D×5/16	7.94	7 [61]	20 [0.79]	4.5 [0.18]
8D	NEW SH8D×3/8	9.53	14 [123]	25 [0.98]	
	NEW SH8D×7/16	11.11		27 [1.06]	5.5 [0.22]
	NEW SH8D×1/2	12.7	15 [132]	29 [1.14]	
	NEW SH8D×9/16	14.29			6.5 [0.26]
	SH10D×1/4	6.35			
	SH10D×5/16	7.94	20 [177]	28 [1.10]	
10D	SH10D×3/8	9.53			6.5 [0.26]
	SH10D×7/16	11.11		32 [1.26]	
	SH10D×1/2	12.7	25 [221]		
	SH10D×9/16	14.29		39 [1.54]	
	SH12D×3/8	9.53	12 [106]	24 [0.94]	5 [0.20]
	SH12D×7/16	11.11	20.5 [181]	31 [1.22]	6.5 [0.26]
12D	SH12D×1/2	12.7	29.5 [261]	32 [1.26]	
	SH12D×9/16	14.29	59 [522]	40 [1.57]	10 [0.39]
	SH12D×5/8	15.88			
	SH12D×11/16	17.46	70 [620]	41 [1.61]	11 [0.43]
	SH15D×1/2	12.7	59 [522]	38 [1.50]	8 [0.31]
	SH15D×9/16	14.29			
	SH15D×5/8	15.88			
	SH15D×11/16	17.46		51 [2.01]	13 [0.51]
15D	SH15D×3/4	19.05			
	SH15D×13/16	20.64	140 [1239]		
	SH15D×7/8	22.23			
	SH15D×15/16	23.81			
	SH15D×1	25.40		60 [2.36]	12 [0.47]
	SH15D×1-1/16	26.99			

Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque N·m [lbf·in]	Outside Width C mm [in]	Thickness t mm [in]
	SH15D×1-1/8	28.58			
	SH15D×1-3/16	30.16		60 [2.36]	
	SH15D×1-1/4	31.75			
15D	SH15D×1-5/16	33.34	140 [1239]		12 [0.47]
	SH15D×1-3/8	34.93		66 [2.59]	
	SH15D×1-7/16	36.51			
	SH15D×1-1/2	38.10		69 [2.72]	
	NEW SH19D×15/16	23.81			
	NEW SH19D×1	25.4		60 [2.36]	15 [0.59]
	NEW SH19D×1-1/16	26.99			
	NEW SH19D×1-1/8	28.58			
19D	NEW SH19D×1-3/16	30.16	200 [1947]	72 [2.83]	
	NEW SH19D×1-1/4	31.75			
	NEW SH19D×1-5/16	33.34			11 [0.43]
	NEW SH19D×1-3/8	34.93		76 [2.99]	
	NEW SH19D×1-7/16	36.51			
	NEW SH19D×1-1/2	38.1			

The Relationship between Interchangeable Heads and Torque Wrenches

Tohnichi's interchangeable head wrenches have specific diameter round ends that fit into corresponding head base openings. Head and wrench model names include the diameter sizes so heads can be matched to wrenches that will accept those heads.
For example: SH15D×17 will fit on CL100N×15D
A variety of different head types (SH, RH, QH, RQH, FH, DH, AH and SP-N) can be used on one wrench or different types of wrenches such as CL (for tightening) and CEM3 (for inspection) can use the same head that has the corresponding diameter size.

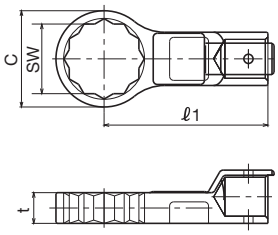
CL100N×15D



SH15D×17

RH Ring Head

RoHS



RH15D×17

The RH type ring heads guarantee the safe work as the axes of bolt and RH ring head are always aligned and prevent the heads will drop.

Note: RH8D×5.5 to RH8D×7 are hex shape.

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Outside Width C [mm]	Thickness t [mm]
8D	RH8D×5.5	1.5	15	10.5	5
	RH8D×6	2.4	24	11	
	RH8D×7	3.6	36	12	6
	RH8D×8	7.2	72	13.5	
	RH8D×10	12.2	122	15.5	
	RH8D×11	15	140	17	7
	RH8D×12			18	
	RH8D×13			19	
10D	RH10D×8	7.2	72	12.5	6
	RH10D×10	12.2	122	15.5	7
	RH10D×11	20	200	17	
	RH10D×12	25	250	18	8
	RH10D×13			19	
	RH10D×14			20	
	RH10D×16			22	
	RH10D×17			24	
	RH10D×18			25	
	RH10D×19			26	
	RH10D×21			28	
	RH10D×22			29	
12D	RH12D×8	7.2	72	15	5
	RH12D×10	12.2	122	16	
	RH12D×11	20	200	18	5.5
	RH12D×12	29.5	295	20	6.5
	RH12D×13			21	
	RH12D×14	59	590	20	10
	RH12D×16			24	
	RH12D×17	70	700	25	12
	RH12D×18			26	
	RH12D×19				
	RH12D×21			29	13
	RH12D×22			30	
15D	RH15D×12	29.5	295	19	7
	RH15D×13				
	RH15D×14	59	590	22	8
	RH15D×16			25	
	RH15D×17	100	1000	26	10
	RH15D×18				
	RH15D×19	140	1400	28	13
	RH15D×21			31	
	RH15D×22				
	RH15D×24			34	
	RH15D×27			37	
	RH15D×30			41	

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Outside Width C [mm]	Thickness t [mm]
19D	RH19D×14	59	590	22.5	8
	RH19D×17	100	1000	27	10
	RH19D×18			28	11
	RH19D×19	166	1660	29	13
	RH19D×21			32	
	RH19D×22				
	RH19D×24			35	
	RH19D×27	200	2000	39	
	RH19D×30			41	
	RH19D×32			44	15
	RH19D×34			47	
	RH19D×36			49	
	RH19D×41			55	
22D	RH22D×19	166	1660	30	14
	RH22D×22	255	2550	34	
	RH22D×24			37	15
	RH22D×27	490	4900	41	
	RH22D×30	500	5000	44	17
	RH22D×32			45	
	RH22D×34			49	
	RH22D×36			51	
	RH22D×41			57	
	RH22D×46			62	
27D	RH27D×22	255	2550	38	14
	RH27D×24	350	3500		15
	RH27D×27	490	4900	42	16
	RH27D×30	670	6700	46	19
	RH27D×32	750	7500	48	20
	RH27D×34	670	6700	51	
	RH27D×36	750	7500	52	21
	RH27D×41			58	22
	RH27D×46			64	24
	RH27D×50			69	26
32D	RH32D×27	490	4900	43	16
	RH32D×30	670	6700	46.5	
	RH32D×32	860	8600	49	18
	RH32D×34			52	
	RH32D×36	1200	12000	53	
	RH32D×41			59	24
	RH32D×46			65	
	RH32D×50			69	27
	RH32D×55			75	29
	RH32D×60			80	

Inch Size Models

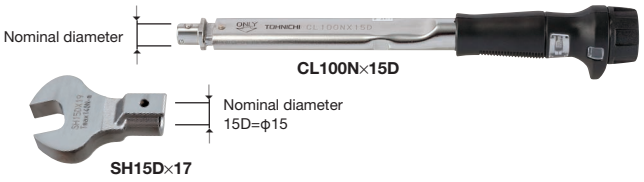
Commonly used in the airline industry and for specific American product installation and maintenance.

Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque N·m [lbf·in]	Outside Width C mm [in]	Thickness t mm [in]
8D	NEW RH8D×1/4	6.35	3.6 [31]	11 [0.43]	5 [0.20]
	NEW RH8D×5/16	7.94	7.2 [63]	13.5 [0.53]	6 [0.24]
	NEW RH8D×3/8	9.53	12.2 [108]	15 [0.59]	7 [0.28]
	NEW RH8D×7/16	11.11	15 [132]	17 [0.67]	
10D	RH10D×1/4	6.35	7.2 [64]	11 [0.43]	6 [0.24]
	RH10D×5/16	7.94		12.5 [0.49]	
	RH10D×3/8	9.53	12.2 [108]	15.5 [0.61]	7 [0.28]
	RH10D×7/16	11.11	25 [221]	17 [0.67]	8 [0.31]
	RH10D×1/2	12.7		19 [0.75]	
	RH10D×9/16	14.29		20 [0.79]	
12D	RH12D×3/8	9.53	12.2 [108]	16 [0.63]	5 [0.20]
	RH12D×7/16	11.11	20 [177]	18 [0.71]	5.5 [0.22]
	RH12D×1/2	12.7	29.5 [261]	21 [0.83]	6.5 [0.26]
	RH12D×9/16	14.29	59 [522]	20 [0.79]	10 [0.39]
	RH12D×5/8	15.88		24 [0.94]	

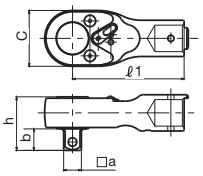
Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque N·m [lbf·in]	Outside Width C mm [in]	Thickness t mm [in]
15D	RH15D×1/2	12.7	29.5 [261]	19 [0.81]	7 [0.28]
	RH15D×9/16	14.29	59 [522]	22 [0.87]	8 [0.31]
	RH15D×5/8	15.88		25 [0.98]	
	RH15D×11/16	17.46	100 [885]	26 [1.06]	10 [0.39]
	RH15D×3/4	19.05	140 [1239]	28 [1.10]	13 [0.51]

The Relationship between Interchangeable Heads and Torque Wrenches

Tohnichi's interchangeable head wrenches have specific diameter round ends that fit into corresponding head base openings. Head and wrench model names include the diameter sizes so heads can be matched to wrenches that will accept those heads.
For example: SH15D×17 will fit on CL100N×15D
A variety of different head types (SH, RH, QH, RQH, FH, DH, AH and SP-N) can be used on one wrench or different types of wrenches such as CL (for tightening) and CEM3 (for inspection) can use the same head that has the corresponding diameter size.



QH Ratchet Head RoHS



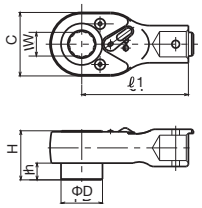
QH15D

As the QH type ratchet heads need only small swing for tightening, they suit for operations in narrow spaces.

Tohnichi Head Size	Model	Dimensions			
		Sq. Drive a [mm]	Outside Width c [mm]	h [mm]	b [mm]
8D	QH8D	6.35	23	17.5	7.5
10D	QH10D-1/4		26	18.5	
	QH10D			22	
12D	QH12D	9.53	32	25.6	11
15D	QH15D-3/8		37.5	30.5	
	QH15D			33.5	14
19D	QH19D	12.7	40	38.4	15.4
22D	QH22D-1/2		51	41.5	15.5
	QH22D	19.05		46.5	20.5
27D	QH27D		70	49.7	21.5
32D	QH32D	25.4	74	55.7	26.5

Note
1. For the model having 25.4mm square drive, use a through-hole socket.
QH15D-3/8 Tmax 100N·m
QH22D-1/2 Tmax 280N·m
2. Ratchet protective cover is available. Refer to page 46.

RQH Female Ratchet Head RoHS

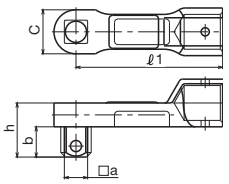


RQH15D×17

As the RQH type ratchet heads need only small swing for tightening, they suit for operations in narrow and low ceiling spaces.

Tohnichi Head Size	Model (Body Size × Width)	Dimensions			
		D [mm]	Outside Width C [mm]	H [mm]	h [mm]
12D	RQH12D×12	20.5	32	24.1	
	RQH12D×14				
15D	RQH15D×14	24.5	37.5	29	
	RQH15D×17				
	RQH19D×17				10
19D	RQH19D×19	31	45	28	
	RQH19D×22				
22D	RQH22D×22	35.2	51	35	
	RQH22D×24				

DH Square Drive Head RoHS



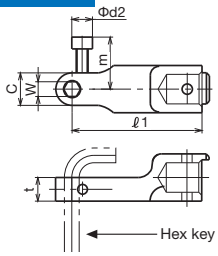
DH15D

The DH square drive heads are the standard interchangeable head. They are useful when tightening a large number of matching screws with a common torque wrench. It is recommended to keep one set. They are used with sockets.

Tohnichi Head Size	Model	Dimensions			
		Sq. Drive a [mm]	Outside Width c [mm]	h [mm]	b [mm]
10D	DH10D	9.53	18	22.5	13
12D	DH12D			23	
15D	DH15D	12.7	22	29.5	16.5
19D	DH19D		24		
22D	DH22D	19.05	34	43.3	23.5
27D	DH27D		42	44.5	
32D	DH32D	25.4	50	58.5	30.25

Note DH32D is a through hole type.

HH Hex Head RoHS



HH10D×6

HH hex-head is for hexagon socket head bolts. A hex key can be inserted.

The HH hex-head is for hex. socket head cap screws.

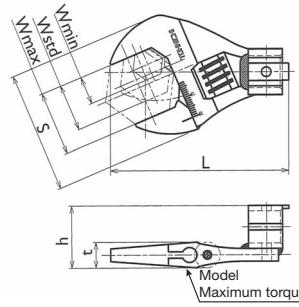
Tohnichi Head Size	Model (Body Size × Width)	Dimensions			
		Outside Width C [mm]	t [mm]	m [mm]	φd2 b [mm]
8D	HH8D	12	14.5	-	-
	HH10D×5	11			
10D	HH10D×6	12	8		
	HH10D×8	15			
	HH12D×5	11		19	7
12D	HH12D×6	14	10		
	HH12D×8	15			
	HH12D×10	17			
	HH15D×8	14			
15D	HH15D×10	17		21	
	HH15D×12	20			
	HH15D×14	21.5			
	HH19D×10	17	13		8.5
	HH19D×12	21.5			
19D	HH19D×14	23		23	
	HH19D×17	27			
	HH19D×19	29			
	HH22D×12	19.5			
	HH22D×14	27			
22D	HH22D×17	30	17	26	10
	HH22D×19	32			
	HH22D×22	35			

Note
1. To be used with hex. key inserted.
2. HH8D is not used with hex. key but interchangeable bit.

HH8D

Bits are sold separately.
Refer to page 11.

AH/AH2 Adjustable Open End Head RoHS



AH15D2×30

Model
Maximum torque (Tmax)

AH is easy and convenient to use for applications that require different size bolt heads. Available currently only for the 15mm diameter root shaped Tohnichi torque wrenches.

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Inner Width Min.-Standard-Max. [mm]	Dimensions S [mm]	L [mm]	t [mm]	h [mm]
10D	NEW AH10D×13	25	250	3-8-13	36	57	9	23
	NEW AH10D×26			7-17-26	49	62	11	25
12D	NEW AH12D×13	30	300	3-8-13	36	66	9	23
	NEW AH12D×26			7-17-26	49	71	11	26
	NEW AH12D×36	50	500	8-22-36	65	78	13	27
15D	AH15D2×26			10-18-26	50	77	11	31
	AH15D2×30	100	1000	13-22-30	60	84	12	32
	AH15D2×36	140	1400	13-24-36	65	87	13	33

Note Use with a click type torque wrench (for tightening).

Model	Recommendable Torque Wrench
AH10D×13	CL25N5×10D
AH10D×26	CL25N5×10D-MH
AH12D×13	CL50N×12D
AH12D×26	CL50N×12D-MH
AH12D×36	

Model	Recommendable Torque Wrench
AH15D2×26	CL50N×15D (-MH)
AH15D2×30	CL100N×15D (-MH)
AH15D2×36	CL140N×15D (-MH)

PH Pipe Wrench Head RoHS

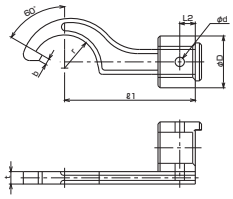
PH15D×350

The PH heads suit for use with pipes and plumbing applications.

Tohnichi Head Size	Model (Body Size × Width)	Pipe Wrench Head Max. Length [mm]	Applicable Pipe Diameter [mm]	Standard Pipe Diameter [mm]	Recommendable Torque Wrench
15D	PH15D×350	350	13-38	25.5	CSP
19D	PH19D×350				
22D	PH22D×350				
	PH22D×450	450	26-52	39	

Note
1. PH can be used with CSP model (P.19) only.
2. When ordering with CSP, please specify PH model name and required set torque.
3. In case of using graduated torque wrench, order PHL models.

FH Hook Head RoHS

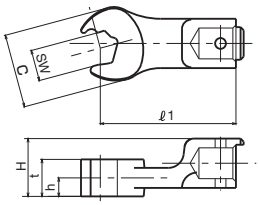


FH

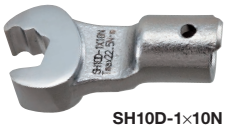
The FH hook heads are ideal for use with bearing locknut applications.

Tohnichi Head Size	Model (Body Size × Width)	Applicable Size of Nut Outside Diameter [mm]	Nominal Size of Screw	Dimensions r [mm]	Θ' [mm]	b [mm]	t [mm]	H [mm]	D [mm]	L2 [mm]	d [mm]
15D	FH15D×30	30-38	M20	16	60	3	6	30	25	7.5	4.5
	FH15D×38	38-45	M25	20							
	FH15D×45	45-52	M30	24		3.5	7	30.5			
	FH15D×52	52-58	M35	27							
	FH15D×58	58-65	M40	31		4.5	8	31			
19D	FH19D×65	65-75	M45, M50	35.5				35.5	29	9.5	
22D	FH22D×75	75-85	M60, M65	39	45	5	10	38.5	32	11	5.5
	FH22D×85	85-98	M70, M75	45.5				40			

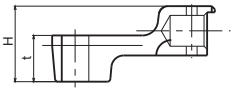
SH-N Open End Head with Notch RoHS



SH-N models
(except for SH10D-5×10N)



SH10D-1×10N



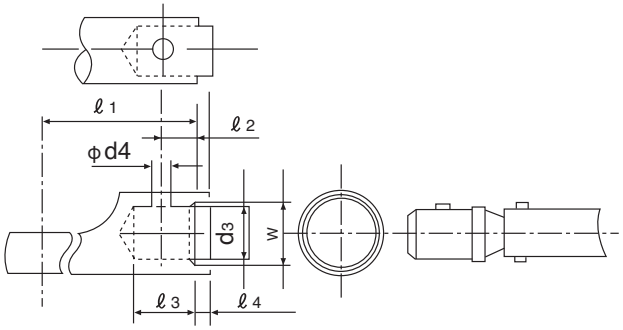
SH10D-5×10N

The notch creates speed in the tightening process by grasping the side of the fastener without removing the wrench. Ideal for brake line assembly.

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque [N·m]	Allowable Torque [kgf·cm]	Dimensions Outside Width C [mm]	Dimensions Thickness H [mm]	Thickness t [mm]	Thickness h [mm]
10D	SH10D-1×10N	22.5	225	24	18.75	12	6
	SH10D-3×10N				20.25	15	7.5
	SH10D-5×10N	19	190		24.5		-
	SH10D-4×10N	22.5	225		17.75	10	5
	SH10D-9×10N				18.75		6
	SH10D×11N				18.8	12	
	SH10D×12N	25	250	32	16	6.5	3.25
12D	NEW SH12D×11N	30	300	32	19	7.5	-
	NEW SH12D-1×12N				21	12	6
	NEW SH12D-3×12N				22.5	15	7.5
	NEW SH12D-5×12N				26		-
	NEW SH12D-4×12N				20	10	5
	NEW SH12D-1×14N	40	400	35	21	12	6
	NEW SH12D-3×14N				22.5	15	7.5
	NEW SH12D-5×14N				26		-
	NEW SH12D-4×14N				20	10	5
	NEW SH12D-1×17N	50	500	38	21	12	6
	NEW SH12D-3×17N				22.5	15	7.5
	NEW SH12D-5×17N				26		-
	NEW SH12D-4×17N				20	10	5

Common Dimensions for Interchangeable Head

Model	Dimensions [mm] ℓ1	ℓ2	ℓ3	ℓ4	d3	d4	W
SH8D, RH, QH, HH	35	4	10	2	8	3.0	9
SH10D, RH, QH, HH, DH, SH-N	44	5	12	2.5	10	3.5	12
SH12D, RH, QH, HH, DH, RQH	53	6	14	3	12	3.5	14
SH15D, RH, QH, HH, DH, RQH, FH	63	7.5	17	3	15	4.5	17
SH19D, RH, QH, HH, DH, RQH, FH	80	9.5	21	3	19	4.5	21
SH22D, RH QH, HH, DH, RQH, FH	100	11	24	3.5	22	5.5	24
SH27D, RH, QH, DH	125	13.5	29	5	27	6.5	30
SH32D, RH, QH, DH	160	16	34	7	32	6.5	35



Note When requesting a special head that is used with various types of torque wrench, it is strictly required to follow the "ℓ1" dimension to keep torque accuracy. Any diviation from the "ℓ1"dimension affects torque accuracy.

Auxiliary Equipment

To facilitate effective and convenient use of Tohnichi products, a number of auxiliary parts and special tools are available (Some torque tools are provided with the necessary auxiliary parts). We are ready to manufacture custom-made parts and tools to meet your requirements.

For Torque Wrench

QH/QL/PQL/QSP RATCHET PROTECTIVE COVER

Fit on your Tohnichi Ratchet Head to protect your work

NEW

Part #	Applicable Interchangeable Head & Model	
870	QH8D	QL/PQL2N-15N(-MH), QSP1.5N4-12N4
871	QH10D	QL/PQL/QSP25N(-MH)
872	QH12D	QL/PQL/QSP50N(-MH)
873	-	QL/PQL/QSP100N4(-MH)
874	QH15D	QL/PQL/QSP140N(-MH)
875	QH19D	QL/PQL/QSP200N4(-MH)
876	RQH19D	-
877	-	QL/PQL/QSP280N4(-MH)
878	QH22D	QL/PQL/QSP420N

TiQLE ADJUSTING TOOL FOR TiQLE

This tool is used to set the torque of the large TiQLE adjustable wrenches.

Part #	Applicable Model
301	TiEQLE750N-TiEQLE1400N

SP THRUSTRING TOOL FOR SP

This tool is used to set the torque of preset types SP, RSP, QSP and CSP torque wrenches.

Part #	Tool #	Applicable Model
310	A-1	QSP/CSP1.5N-QSP/CSP6N
311	A-2	SP2N-SP19N, QSP/CSP12N, QSP/CSP25N
312	A-3	SP38N, SP67N, QSP/CSP50N-QSP/CSP140N, BQSP/BCSP50N-
313	A-4	SP120N-SP310N, QSP200N-QSP280N
314	A-5	QSP/CSP420N, BQSP/BCSP420N5
315	A-6	SP420N, SP560N

QSP3 ADJUSTING TOOLS FOR QSP3

Part #	Dimensions [mm]	Applicable Model
931	2.5 × 1.5 × 6	QSP/CSP25N3, QSP1.5N4-12N4 BQSP/BCSP25N5, CSP1.5N4-CSP12N4
930	4 × 2.5 × 8	QSP/CSP50N3-QSP/CSP280N3 QSP100N4, QSP200N4 BQSP/BCSP50N5-BQSP/BCSP280N5 SP/RSP120N2-310N2

DB TOOL SET FOR DB

This set of pliers is used to adjust the torque for dial type torque wrenches and torque checkers.

Part #	Applicable Model
316	DB, DBE, CDB-S, T-S, DOT

CARRYING CASE

842

846

Part #	Dimensions [mm]	Weight [kg]
842	QL50N, QL50N-MH, MTQL40N, MTQL70N, QL100N4-MH CL50N (×12D/15D), CL50N (×12D/15D)-MH, CL100N×15D-MH (H60 × W400 × D70)	0.25
843	QL140N, QL140N-MH, MTQL140N, QL200N4, QL200N4-MH CL140N×15D, CL140N×15D-MH, CL200N×19D, CL200N×19D-MH (H60 × W520 × D80)	0.36
846	QL140N and below, QL140N-MH and below, MTQL140N and below, CL200N×19D, CL200N×19D-MH and below (H170 × W500 × D100)	1.0
847	QL280N, QL280N-MH and below CL280N×22D, CL280N×22D-MH and below (H170 × W740 × D100)	1.6

For Torque Screwdriver

LTD, RTD ADJUSTING TOOL FOR LTD/RTD

This tool is used to adjust the torque of LTD and RTD torque screwdrivers.

Part #	Applicable Model
51	LTD/RTD15CN, LTD/RTD30CN
46	LTD/RTD60CN
47	LTD/RTD260CN
48	LTD/RTD500CN
49	LTD/RTD1000CN
1046	LTD/RTD120CN

LTD TIGHTENING TOOL FOR LTD

This tool makes tightening with large LTD much easier.

Part #	Applicable Model
31	LTD/RTD/NTD/RNTD500CN FTD400CN
32	LTD/NTD1000CN FTD8N, FTD16N
40	LTD2000CN

LTD, RTD PRESET HOOK SPANNER FOR LTD/RTD

This tool makes it easier to set the torque for mid. to large capacity LTD and RTD screwdrivers.

Part #	Applicable Model
52	LTD/RTD260CN
53	LTD/RTD500CN
54	LTD1000CN
55	LTD2000CN

NTD, RNTD ADJUSTING BAR FOR NTD/RNTD

This tool is used to set the torque of preset types NTD and RNTD screwdrivers.

Part #	Applicable Model
42	NTD/RNTD15CN-NTD/RNTD120CN
43	NTD/RNTD260CN
44	NTD/RNTD500CN-NTD/RNTD1000CN

TORQUE SCREWDRIVER ADAPTER

This accessory is used with TME2 and TM torque meters to test UNITORK and torque screwdrivers.

Part #	Applicable Model
30	LTD/RTD/NTD/RNTD
	FTD50CN-FTD400CN

Lubricant for repairing torque products EVERTORQUE

Model	Part #
EVERTORQUE	830

RoHS

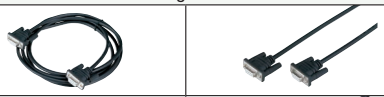
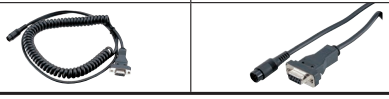
Applicable Models and Parts

	Applicable Model	Applicable Part
Click Type Torque Wrench	QL, QLE, CL, CLE, PQL, PCL, YCL etc.	Thrustring; Steel Ball Scale Piece, Adjusting Screw; Thread
	WQL	Thrustring; Steel Ball Scale Piece, Adjusting Screw; Thread Screw Knob, Protector; Joint
	MPQL	Thrustring; Steel Ball Scale Piece, Adjusting Screw; Thread Ratchet, Marker Pipe; Joint
Click Type Torque Screwdriver	RTD, RNTD	Main Shaft, Toggle Sheet; Serration
	RTD, LTD, BMLD	Case, Adjusting Piece; Thread

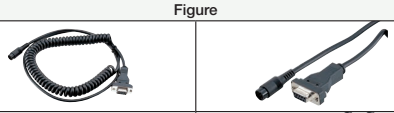
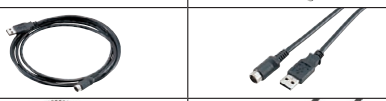
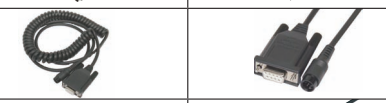
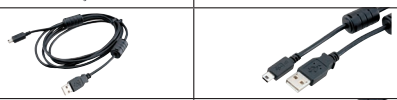
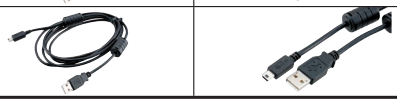
Connecting Cable

* The cable length is 2m.

■ EPP16M3 Printer Connecting Cable

Part #	Applicable Models	Figure	Plug
383	DOTE3-G (P.54), LC3-G (P.56), TDT3-G (P.57), TME2 (P.60), CD5 (P.66)		D-SUB 9 Pin Female
575	CEM3-G/CEM3-P (P.36), CTA2 (P.24), R-DT999 (P.66), CTB2-G (P.37)		D-SUB 9 Pin Female

■ PC Connecting Cable

Part #	Applicable Model	Figure	Plug
575	CEM3-G/CEM3-P (P.36), CTA2 (P.24), R-DT999 (P.66), CTB2-G (P.37)		D-SUB 9 Pin Female
584	CEM3-G/CEM3-P (P.36), CTA2 (P.24), R-DT999 (P.66), CTB2-G (P.37)		USB A type
585	CPT-G (P.23)		D-SUB 9 Pin Female
383	DOTE3-G (P.54), LC3-G (P.56), TDT3-G (P.57), TME2 (P.60), CD5 (P.66)		D-SUB 9 Pin Female
384	STC2-G (P.10), ST3-G (P.56), ATGE-G (P.58), BTGE-G (P.59)		USB A type
385	LC3-G (P.56), TDT3-G (P.57)		USB A type

Quick Charger, Battery Pack, AC Adapter

■ Quick Charger

Model	Applicable Model	Figure
RoHS BC-3-G	CEM3-G/CEM3-P (P.36), CTA2 (P.24) CTB2-G (P.37) (100-240V)	
RoHS BC-4-2	ST3-G (P.56)	

■ Battery Pack

Model	Applicable Model	Figure
BP-5	CEM3-G/CEM3-P (P.36) CTA2 (P.24), CTB2-G (P.37)	
BP-7	STC2-G (P.10)	
RoHS BP-100-3	DOTE3-G (P.54), LC3-G (P.56), TDT3-G (P.57), TME2 (P.60), CD5 (P.66)	

■ AC Adapter

Model	Applicable Model	Figure
RoHS BA-6	DOTE3-G (P.54), LC3-G (P.56), TDT3-G (P.57), CD5 (P.66)	
RoHS BA-5	ATGE-G (P.58), BTGE-G (P.59)	

Model	Applicable Model	Figure
RoHS BA-4	TME2 (P.60)	
BA-7	STC2-G (P.10)	

AUR

UNITORK (Pistol Type Pneumatic Torque Screwdriver)

Direction

AUR12.5N

Assembly **Pistol** **Pneumatic** **Graduation** **Trigger** RoHS

- High speed and high accuracy tightening
- Easy torque adjustment by scale with key

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed	Air Pressure	Hose in Dia.	Standard Accessory	Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[r.p.m]	[MPa]	[mm]	Bit ⊕	[kg]
AUR5N	2-5	0.1	AU50R	20-50	1	AU50R-A	15-45	1	2100			#3	1.5
AUR12.5N	5-12.5	0.25	AU125R	50-125	2.5	AU125R-A	37.5-112.5	2.5	800	0.5	φ10	-	1.7
AUR25N	10-25	0.5	AU250R	100-250	5	AU250R-A	75-225	5	400			-	

Note

1. AUR5N has #3 bit (6.35 HEX) with a double bit. Any other bits are available in the local market.
2. AUR12.5N and AUR25N have a fixed 9.53mm square drive. Use pneumatic sockets only.

Standard Accessories

1. Torque adjusting key
2. Supportive Handle (for AUR(LS) 25N)
3. W12 Open ended spanner (for AUR(LS) 25N)

AURLS

- AUR style with limit switch output
- Ideal for torque verification (Pokayoke) assembly processes

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed	Air Pressure	Hose in Dia.	Standard Accessory	Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[r.p.m]	[MPa]	[mm]	Bit ⊕	[kg]
AURLS5N	2-5	0.1	AU50RLS	20-50	1	AU50RLS-A	15-45	1	2100			#3	1.5
AURLS12.5N	5-12.5	0.25	AU125RLS	50-125	2.5	AU125RLS-A	37.5-112.5	2.5	800	0.5	φ10	-	1.7
AURLS25N	10-25	0.5	AU250RLS	100-250	5	AU250RLS-A	75-225	5	400			-	

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold Separately

HAT

HANDYTORK (Battery Operated Torque Screwdriver)

Direction

HAT HATR

HAT25N

Assembly **Pistol** **Re-Chargeable** **Graduation** **Trigger**

- Easy calibration check with standard torque wrench tester
- Available with reverse and as FH version

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Free Speed	Voltage	Square Drive	Weight
	Min.-Max.	Grad.	[r.p.m.]	DC [V]	[mm]	[kg]
HAT25N	10-25	0.5	700	12	9.5	1.8
HATR25N			140			

Note

1. Torque accuracy is based upon static torque measured by torque wrench tester.
2. HATR/HATRFH has a reverse mode function.
3. HATFH/HATRFH is error-proofing (Pokayoke) type, and it can be used only with R-FH256 receiver (sold separately) as count verification system.
4. Use pneumatic sockets only.
5. HAT battery and battery charger are optional.
6. It is designed for 100V usage only.

Standard Accessories

1. W4 hex key
2. Supportive handle (for HAT25N, HATR25N, HATFH25N, HATRFH25N)

HATFH

TUD TOHNICHI UNIFIED DESIGN

- Wireless error-proofing (Pokayoke) version of HAT
- Tightening completion signal output to eliminate missed tightening

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Free Speed	Voltage	Square Drive	Weight
	Min.-Max.	Grad.	[r.p.m.]	DC [V]	[mm]	[kg]
HATFH25N	10-25	0.5	700	12	9.5	1.8
HATRFH25N			140			

POKA Patrol (Count Checker)

CNA-4mk3

Refer to page 31.

* Sold Separately

HAT Optional Accessories

Battery

BP-12

Model	Description
BP-12	DC 12V

Battery Charger

BC-1

Part #	Model
820	BC-1 (AC100V)

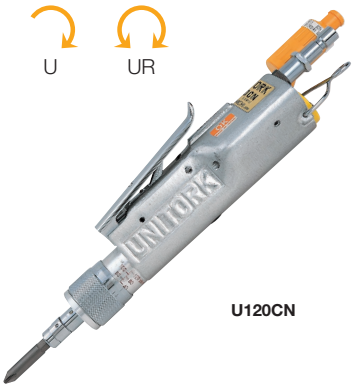
U/UR

UNITORK (Straight & Pistol Type Pneumatic Torque Screwdriver)

Assembly | Straight/Pistol | Pneumatic | Graduation | Trigger/Lever | RoHS

- Accurate and stable tightening for small size screws
- Lever activated

Direction



U120CN

Accuracy ±5%

S.I. Model	Torque Range [cN·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	American Model	Torque Range [lbf·in] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [MPa]	Hose in Dia. [mm]	Weight [kg]	Standard Accessory Bit ⊕
	cN·m	cN·m		kgf·cm	kgf·cm		lbf·in	lbf·in					
U30CN	10-30	0.5	U3	1-3	0.05	U3-A	1-3	0.05	1600	0.4		0.32	#0
U60CN	20-60	1	U6	2-6	0.1	U6-A	2-5	0.1	1700	0.5	φ5	0.42	#1
U120CN	40-120	2	U12	4-12	0.2	U12-A	4-10	0.2	1400			0.48	#2
U250CN	100-250	5	U25	10-25	0.5	U25-A	8-22	0.5	1200	0.6		0.75	
U500CN	200-500	10	U50-2	20-50	1.0	U50-2-A	15-45	1.0	950	0.5	φ6	1.35	#3
U1000CN	400-1000		U100	40-100		U100-A	30-90		700	0.6		2.0	
ULR120CN	40-120	2	U12LR	4-12	0.2	U12LR-A	4-10	0.2	1300	0.5	φ5	0.56	#2
ULR250CN	100-250	5	U25LR	10-25	0.5	U25LR-A	8-22	0.5	1000	0.6	φ6	0.95	
UR500CN	200-500	10	U50R	20-50	1.0	U50R-A	15-45	1.0	950			1.45	#3

Note

1. U1000CN has a fixed square drive (9.53mm). Use socket bits or bit holders for this model.
2. U500CN, 1000CN, and UR500CN are pistol type with trigger mechanism.
3. Standard bits available in the local market can be used.

Standard Accessories

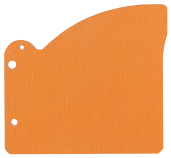
1. One Touch Joint #130 (For U30CN-U250CN, ULR120CN and ULR250CN)
2. Bit holder (For U1000CN only)

U/UR Optional Accessories

One Touch Joint (Female)

Joint to connect UNITORK to air hoses

Part #	Applicable Model	Size
130	U30CN-U250CN	PF 1/4 Female
131		PF 1/4 Male
132		φ8 Hose Joint



Hand Cover

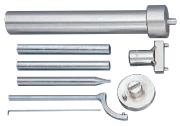
For hand slip protection

Part #	Applicable Model
150	U30CN-U120CN
151	U250CN

Torque-fix

For torque adjustment

Part #	Applicable Model
145	U30CN-U120CN
146	U250CN
147	U500CN, UR500CN



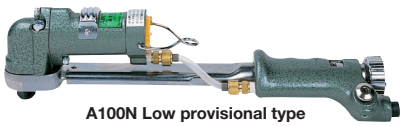
Tool Kit

Tools for disassembly/assembly for UNITORK

Part #	Applicable Model
160	U30CN-U250CN
161	U250CN
162	U500CN, UR500CN
163	U1000CN

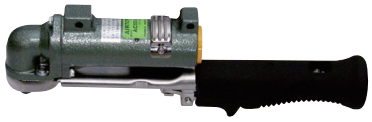
A/AC2 Semi-Automatic Airtork

Direction



A100N Low provisional type

A180N Low provisional type



AC50N2 High provisional type

ACLS100N2 High provisional with limit switch type

Assembly | Angle | Pneumatic | Graduation | Push button | RoHS

- Pneumatic motor mounted on torque wrench
- After provisional tightening by an air motor at high speed, final tightening is performed manually.
- A: Low provisional torque type
- AC: High provisional torque type

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	American Model	Torque Range [lbf·in/lbf·ft] Min.-Max.	Grad.	Max.Provisional Tightening Torque [N·m]	Free Speed [r.p.m]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
							lbf·in	lbf·in							
A10N	3-10	0.1	A100	30-100	1	A100-A	30-90	1							
A25N	5-25	0.25	A225	50-250	2.5	A225-A	50-200	2.5	1.8	750			278	9.5	1.0
A50N	10-50	0.5	A450	100-500	5	A450-A	100-400	5							
							lbf·ft	lbf·ft							
A100N	20-100	1	A900	200-1000	10	A900-A	15-65	1	2.5	800		φ5	340	12.7	1.43
A180N	40-180	2	A1800	400-1800	20	A1800-A	30-130	2	5				489		2.6
							lbf·in	lbf·in			0.6				
NEW AC25N2	5-25	0.25	AC250M2	50-250	2.5	AC200I2-3/8	50-200	2.5	11	1000			293	9.5	1.0
NEW AC50N2	10-50	0.5	AC500M2	100-500	5	AC400I2-3/8	100-400	5							1.5
NEW -	-	-	-	-	-	AC800I2-3/8	200-800	10							
							lbf·ft	lbf·ft	17.5	900			334	9.5	2.0
-	-	-	-	-	-	AC75F2-3/8	15-75	1				φ6			
NEW AC100N2	20-100	1	AC1000M2	200-1000	10	-	-	-						12.7	
AC180N	40-180	2	A1800C	400-1800	20	AC130F-4A	30-130	2	19	800			489		3.3

Note
1. Rated voltage of the limit switch is AC/DC 30V, below 1A.
2. Use pneumatic sockets only.
3. S.Q. Drive Through Hole

ALS/ACLS2

- A/AC style with limit switch output
- Ideal for torque verification (Pokayoke) assembly processes

Accuracy ±3%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	Max.Provisional Tightening Torque [N·m]	Free Speed [r.p.m]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
ALS10N	3-10	0.1	A100LS	30-100	1							1.2
ALS25N	5-25	0.25	A225LS	50-225	2.5	1.8	750			278		
ALS50N	10-50	0.5	A450LS	100-500	5				φ5		9.5	1.7
NEW ACLS25N2	5-25	0.25	ACLS250M2	50-250	2.5	11	1000	0.6		293		1.2
NEW ACLS50N2	10-50	0.5	ACLS500M2	100-500	5							1.7
NEW ACLS100N2	20-100	1	ACLS1000M2	200-1000	10	17.5	900		φ6	334	12.7	2.2
ACLS180N	40-180	2	A1800CLS	400-1800	20	19	800			489		3.5

AS Fully-Automatic Airtork

Direction

AS12N

ASH80N

Assembly | Angle | Pneumatic | Graduation/Preset | Lever | RoHS

- Pneumatic right angle style
- Speed tightening with shut off at final torque set
- ASH: High air pressure, ASL: Low air pressure

Accuracy ±5%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·m] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
AS12N	6-12	0.2	A120S	60-120	2	1000	0.5		359	9.5	1.9
ASH40N	20-40		A400SH	200-400		2000			477		2.6
ASH60N	30-60		A600SH	300-600		1330	0.6		484		2.8
ASH80N	40-80		A800SH	400-800		1000			592	12.7	3.2
ASH120N	60-120	Preset	A1200SH	600-1200	Preset	640		φ12	662		4.1
ASL30N	15-30	Type	A300SL	150-300	Type	1700			477	9.5	2.6
ASL45N	22.5-45		A450SL	225-450		1130	0.45		484		2.8
ASL60N	30-60		A600SL	300-600		850			592	12.7	3.2
ASL90N	45-90		A900SL	450-900		540			662		4.1

Note
1. AS12N is Adjustable style having a graduated scale.
2. Other AS models are Preset style. Please specify the required set torque when ordering. (Ex. ASH40N × 30N·m)
3. Use pneumatic sockets only.
4. S.Q. Drive Through Hole

Standard Accessories
1. Torque adjustment key
2. Spanner

AS optional Accessories

Spanner (for disassembly/assembly)

Part #	Applicable Model
170	AS

Torque Adjustment Key

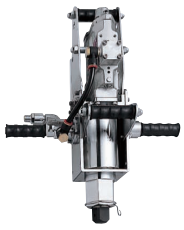
Part #	Applicable Model
140	AS

AP

Fully-Automatic Airtork

Direction

AP400N



AP2200N

Assembly | **Pistol** | **Pneumatic** | **Graduation** | **Trigger/Lever** | RoHS

- For large bolt tightening
- Automatic shut off at final torque set

Accuracy ±5%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf·ft] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Reaction Arm (Sold Separately)	Weight [kg]
AP220N	100-220	10	AP22	10-22	1	AP160F	80-160	5	277	0.5	φ12	275	19.0	SA400N/UA450N	4.7
AP400N	200-400		AP40	20-40		AP300F	150-300	10	175						
AP700N	300-700	20	AP70	30-70	2	AP500F	220-500	10	79			364	25.4	SA700N/UA900N	6.7
AP1200N	600-1200	50	AP120	60-120	5	AP900F	450-900	25	46			375		SA1200N/UA1800N	8.1
AP2200N	1000-2200	100	AP220	110-220	10	AP1600F	800-1600	50	19.2			508	31.75	UA3000N	15
AP4000N	2000-4000		AP400	200-400		AP3000F	1500-3000	100	12			541	38.1	UA4500N	22

Note

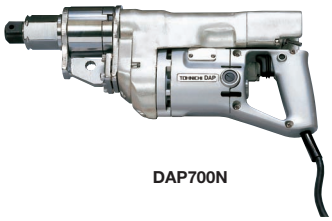
1. Reaction arm, such as UA or SA, must be used when operating AP models in order to absorb reaction force.
2. Use pneumatic sockets only.
3. S.Q. Drive Through Hole

Standard Accessories W5 hex key

DAP

Fully-Automatic Electric Torque Wrench

Direction



DAP700N

Assembly | **Pistol** | **Electric Power** | **Graduation** | **Trigger**

- Electric version of AP

Accuracy ±5%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·m] Min.-Max.	Grad.	Free Speed [r.p.m]	Voltage AC [V]	Overall Length [mm]	Square Drive [mm]	Reaction Arm (Sold Separately)	Weight [kg]
DAP220N	100-220	10	DAP22	10-22	1	314	AC100V ±10% 50/60Hz	318	19.0	SA400N/UA450N	5.4
DAP400N	200-400		DAP40	20-40		199					
DAP700N	300-700	20	DAP70	30-70	2	90		400	25.4	SA700N/UA900N	8.2
DAP1200N	600-1200	50	DAP120	60-120	5	53		418		SA1200N/UA1800N	9.4

Note

1. DAP has 2 types, A-type for clockwise tightening, and B-type for clockwise tightening + reverse mode. Torque control is available only for clockwise direction for both type.
2. Power cable is 2.5m length.
3. Reaction arm is optional.
4. Reaction arm is a must for using this model.
5. Reaction arm, such as UA or SA, must be used when operating DAP models in order to absorb reaction force.
6. Use pneumatic sockets only.
7. S.Q. Drive Through Hole
8. It is designed for 100V usage only.

Standard Accessories W5 hex key

AP/DAP Optional Accessories

SA

Shell Arm
Light weight reaction arm

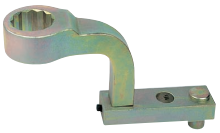
RoHS

Model	Standard Socket Length [mm]
SA400N	50
SA700N	62
SA1200N	62

UA

Universal Arm
Heavy duty reaction arm

RoHS



Model	Weight [kg]
UA450N	1.2
UA900N	2.6
UA1800N	4
UA3000N	7.2
UA4500N	10.9
UA9000N	18
UA18000N	-

DECA

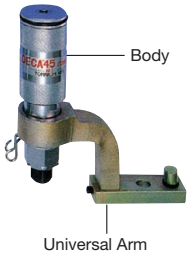
10:1 Ratio
Torque Multiplier

RoHS

- Multiplied torque output by 10
- Ideal for applying high torque values with less force

DECA900N

Body + Universal Arm



Accuracy ±5%

Model	Output Torque [N·m] Min.-Max.	[kgf·m] Min.-Max.	[lbf·ft] Min.-Max.	Torque Ratio	Dimension [mm] Overall Length	Dia.	Output Sq. Drive	Input Sq. Drive	Weight [kg]	Applicable Universal Arm
DECA450N	90-450	9-45	65-325	10:1	195	52	19.0	9.5	2	UA450N
DECA900N	180-900	18-90	130-650		541	63	25.4	12.7	3.4	UA900N
DECA1800N	360-1800	36-180	260-1300		270	78			5.7	UA1800N
DECA3000N	600-3000	60-300	434-2170		324	95	31.75	19.0	10	UA3000N
DECA4500N	900-4500	90-450	650-3250		367	110	38.1		12.5	UA4500N
DECA9000N	1800-9000	180-900	1300-6500		464	140	50.8	25.4	34	UA9000N
DECA18000N	3600-18000	360-1800	2600-13000		540	172	63.5		60	UA18000N

Note

1. Universal Arm is optional.
2. DECA9000N and DECA18000N are supplied upon request.
3. S.Q. Drive Through Hole

Standard Accessories

1. Metal Case (for DECA450N-DECA900N only)
2. Portable Handle (for DECA4500N-DECA9000N only)
3. Metal Case Caster (for DECA18000N only)

ME/MC

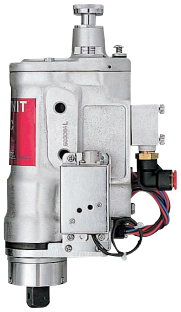
Multiple Unit (Pneumatic Straight Style)

Direction

Automatic **Straight** **Pneumatic** **Graduation** **Master Valve Operation** RoHS

- Several units used simultaneously with loader
- Fully automatic tightening for complex bolt configurations

ME126N



MC400N-TC

Accuracy ±5%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm/kgf·m] Min.-Max.	Grad.	American Model	Torque Range [lbf-in/lbf-ft] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [Mpa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
				kgf·cm	kgf·cm		lbf·in	lbf·in						
ME25N	10-25	0.5	M250E2	100-250	5	M250E2-A	90-220	5	1050	0.4	φ7.5	420.6 (457.6)	9.5	4.7
ME45N	20-45		M450E2	200-450		M450E2-A	200-400		540			424	12.7	5.3
ME80N	35-80	1	M800E2	350-800	10	M800E2-A	310-700	10	310					
							lbf·ft	lbf·ft				(461)		
ME126N	50-126	2	M1260E2	500-1260	20	M1260E2-A	35-90	2	200					5.7
				kgf·m	kgf·m									
MC220N	100-220	10	M22C	10-22	1	M22C-A	80-160	10	277	0.5	φ8	287.5	19.0	4.6
MC400N	200-400		M40C	20-40		M40C-A	150-300		175					
MC700N	300-700	20	M70C	30-70	2	M70C-A	220-500	20	79			376	25.4	6.7
MC1200N	600-1200	50	M120C	60-120	5	M120C-A	450-900	50	46			388		8.1
MC2200N	1000-2200	100	M220C	100-220	10	M220C-A	700-1600	100	19.2			491	31.75	17
MC4000N	2000-4000		M400C	200-400		M400C-A	1500-3000		12			522	38.1	24

Note

1. Overall length in ( ) is the length with TC sensor.
2. Auto-reverse/auto-reset functions.
3. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
4. Add "–TC" for sensor-equipped version.
5. For first-time user, consult Tohnichi for assistance.

Standard Accessories Torque adjusting bar

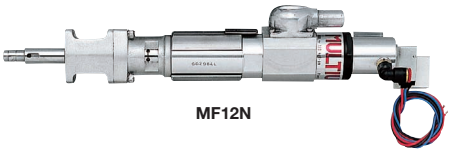
MG/MF

Multiple Unit (Pneumatic Straight Style)

Direction

Automatic **Straight** **Pneumatic** **Graduation** **Master Valve Operation** RoHS

- Several units used simultaneously with loader
- Fully automatic tightening for complex bolt configurations



MF12N

Accuracy ±5%

S.I. Model	Torque Range [cN·m/N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	American Model	Torque Range [lbf-in] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [Mpa]	Hose Dia. [mm]	Overall Length [mm]	Bit Holder [mm]	Weight [kg]
	cN·m	cN·m		kgf·cm	kgf·cm									
MG120CN	40-120	1	M12G	4-12	0.1	M12G-A	4-10	0.2	720	0.4	φ5	287-	6.35 Hex	0.68
MG250CN	100-250	2.5	M25G	10-25	0.25	M25G-A	8-22	0.5	350			279		
	N·m	N·m												
MF6N	3-6	0.1	M60F	30-60	1	M60F-A	25-50	1	1000		φ6	411-		2.0
MF12N	6-12	0.2	M120F	60-120	2	M120F-A	50-100	2	500			403		

Note

1. MG/MF is 6.35 HEX bit holder type.
2. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
3. For first-time user, consult Tohnichi for assistance.

Standard Accessories Torque adjusting key

AME

Multiple Unit (Pneumatic Right Angle Style)

Direction

Automatic **Angle** **Pneumatic** **Graduation** **Master Valve Operation** RoHS

- Ideal for automated tightening applications

AME35N

Accuracy ±5%

S.I. Model	Torque Range [N·m] Min.-Max.	Grad.	Metric Model	Torque Range [kgf·cm] Min.-Max.	Grad.	Free Speed [r.p.m]	Air Pressure [Mpa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
AME25N	10-25	0.5	AM250E2	100-250	5	1200	0.5	φ7.5	369 (407)	9.5	2.6
AME35N	15-35		AM350E2	150-350		800			376 (414)	12.7	2.7
AME50N	20-50	1	AM500E2	200-500	10	600			484 (522)		2.9
AME70N	30-70		AM700E2	300-700		380			554 (592)		3.6

Note

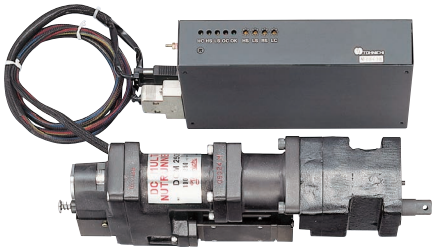
1. Auto-reverse/auto-reset functions.
2. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
3. Add "–TC" for sensor-equipped version.
4. For first-time user, consult Tohnichi for assistance.

Standard Accessories Torque adjusting bar

DCME

Direction

Multiple Unit (Electric Straight Style)



DCME25N

Automatic | **Straight** | **Electric Power** | **Graduation** | **Switch Signal**

- Electric version of ME
- Built-in brushless motor allows for noiseless fastening.

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		Free Speed	Voltage	Overall Length	Square Drive	Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.	[r.p.m]	[AC V]	[mm]	[mm]	[kg]
DCME25N	10-25	0.5	DCM250E	100-250	5	1050	Single	302 (339)	9.5	5
DCME45N	20-45	1	DCM450E	200-450	10	540	Phase 200			5.5
DCME80N	36-80	2	DCM800E	350-800	20	310	50/60Hz	305 (342)	12.7	
DCME125N	50-125	5	DCM1250E	500-1250	50	200	(100)			6.0

Note

1. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
2. Specify the electric voltage.
3. Add "–TC" for sensor-equipped version.
4. For first-time user, consult Tohnichi for assistance.

Standard Accessories

1. Driver Unit (DR-DCME)
2. W5 hex key

Power Supply (Sold separately)

Model	Powr Source AC (V)	
PS-DCME	AC200V (AC100V)	DC140V AC15V

Note Specify the voltage when ordering

Optional Accessories for Multiple Unit

Handle Valve (supportive handle)

Part #	Type	Air Outlet	Overall Length [mm]	Application
188	Handle Valve	3/8	135	For Direct Connection
189	Handle Valve	1/8	125	Master Valve
187	Handle Assist	-		-

Switch Handle (Switch)

Part #	Type	Application
331	Start Switch Handle	Multiple Unit Start Switch
332	Reset Switch Handle	Reset Switch
333	Quick Reverse Handle	Emergency Reset Switch

Master Valve

Part #	Application	Air Outlet × Air Supply × Number of Branch (ΦD) × (φd) × (n)
195	MF	1/2 × 1/4 × 4
196	ME	1/2 × 1/4 × 6
197	MC	3/4 × 3/8 × 2
198		1 × 3/8 × 4
199		1 × 3/8 × 6

Slide Drive (for ME, DCME)

Model
FDME25N
FDME80N
FDME126N
FDME400N
FDME1200N

Slide Drive (for MC)

Model
FDMC400N
FDMC1200N

Torque Sensor

Model	Applicable Model
TC-ME2	ME
TC-MCA	MC220N, MC400N
TC-MCB-2	MC700N
TC-MCB	MC1200N

Related Products

Daily inspection/calibration devices for power torque tools

ST20N3-G **ST1000N3-G**

Torque checking for multi-spindle nut runners (P.56)

TCF20N

Fixed typed torque sensor to calibrate power tools (P.61)

TCR18N

Rotary type torque sensor capable of measuring rotating objects (P.61)

CD5

Display of torque value measured by strain gauge sensor (P.66)

DOTE3-G Digital Torque Wrench Tester

Direction

DOTE100N3-G

Calibration | Digital | Manual Handle | Direct Reading | RoHS

- Multiple units of measure through keypad setup
- "Loading system" stabilizes wrench during calibration procedure for optimal results.
- RS232C output
- Max. 99 measured data can be stored.

Accuracy ±1%+1digit

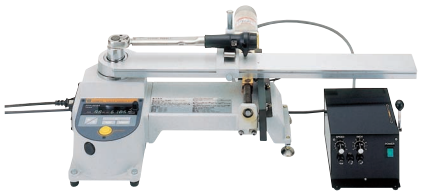
Model	Torque Range												Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Weight [kg]
	cN·m		N·m		kgf·cm		kgf·m		lbf·in		lbf·ft				
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit			
DOTE20N3-G	200.0-2000.0	0.5	2.000-20.000	0.005	20.00-200.00	0.05	-	-	18.00-180.00	0.05	-	-		9.5	
DOTE50N3-G	-	-	5.00-50.00	0.01	50.0-500.0	0.1	-	-	44.0-440.0	0.1	3.60-36.00	0.01	410		11
DOTE100N3-G	-	-	10.00-100.00	0.02	100.0-1000.0	0.2	-	-	88.0-880.0	0.2	7.30-73.00	0.02		12.7	
DOTE200N3-G	-	-	20.00-200.00	0.05	200.0-2000.0	0.5	-	-	170.0-1700.0	0.5	15.00-150.00	0.05	660		13
DOTE500N3-G	-	-	50.0-500.0	0.1	-	-	5.00-50.00	0.01	440-4400	1	36.0-360.0	0.1	1020	19.0	24
DOTE1000N3-G	-	-	100.0-1000.0	0.2	-	-	10.00-100.00	0.02	880-8800	2	73.0-730.0	0.2	1650	25.4	45

Note
1. Auto-zero adjustment function.
2. Statistical function includes the number of sampling, max/min/mean values.

DOTE3-G-MD RoHS

DOTE3-G with Motor Driven Loading Device

Model
DOTE20N3-G-MD
DOTE50N3-G-MD
DOTE100N3-G-MD
DOTE200N3-G-MD
DOTE500N3-G-MD
DOTE1000N3-G-MD



DOTE100N3-G-MD

DOTE3-G Standard Accessories

Model	Down Adapter (Female)		Hex Adapter (Male)	AC Adapter (Power supply)
	Part #	[mm]	[mm]	
DOTE20N3-G	296/DA3-2 (P.67)	6.35	10, 13, 19	BA-6 (AC100-240V±10%)
DOTE50N3-G				
DOTE100N3-G	277 (P.41)		12, 14, 17	
	297/DA4-3 (P.67)	9.5		
DOTE200N3-G	-	-	17, 22, 27/19, 24, 30	
DOTE500N3-G	-	-	22, 27, 29/30, 32, 36	
DOTE1000N3-G	299/DA8-6 (P.67)	19.0	34, 41/46, 50	

DOTE3-G Optional Accessories

Hex Adapter

Part #	Size [mm]
285	3/8-7-8-9
286	1/2-16-18-21
287	1/2-17-22-27
288	1/2-19-24-30

Connecting Cable (P.47)

Part #	Applicable Models
383	DOTE3-G → PC, EPP16M3 (D-SUB 9 Pin Female)

Note
1. ( ) shows pin shape of the connecting cables.
2. Contact Tohnichi for other types of connecting cables.

Battery Pack (P.47)

Model
BP-100-3

Printer (P.67)

Model
EPP16M3

Data Filing System (P.66)

Model	Media
DFS	CD-ROM

DOT Analog Torque Wrench Tester

Direction

DOT100N

Calibration | Dial Indicating | Manual Handle | Direct Reading | RoHS

- Dial indicating
- For clockwise testing
- Mechanical loading device

Accuracy ±2%

S.I.Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Weight [kg]	Standard Accessory	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				Down Adapter (Female) [mm]	Hex Adapter (Male) [mm]
							lbf·in	lbf·in					
DOT35N	5-35.0	0.1	350D0T	50-350	1	DOT300I	50-300	1		9.5		#296 (6.3)	10, 13, 19
DOT50N	5-50.0	0.2	500D0T	50-500	2	DOT430I	50-430	2	410		8		
DOT100N	10-100.0	0.5	1000D0T	100-1000	5	DOT1000I	100-1000	5		12.7		#277 (6.4), #297 (9.5)	12, 14, 17
							lbf·ft	lbf·ft					
DOT300N	30-300	1	3000D0T	300-3000	10	DOT200F	20-200	1	660	19	10	-	17, 22, 27 19, 24, 30
DOT700N	70-700	2	7000D0T	700-7000	20	DOT500F	50-500	2	1260		25	-	22, 27, 29 30, 32, 36

Note Measurement for clockwise direction only.

DOT-MD

DOT with Motor Driven Loading Device

S.I. Model	Metric Model	American Model
DOT35N-MD	350DOT-MD	DOT300I-MD
DOT50N-MD	5000DOT-MD	DOT430I-MD
DOT100N-MD	1000DOT-MD	DOT1000I-MD
DOT300N-MD	3000DOT-MD	DOT200F-MD
DOT700N-MD	7000DOT-MD	DOT500F-MD

◆ Calibration Kit for DOTE3-G/DOT

* Sold separately. Refer to page 62.

TF Fully Automatic Digital Torque Wrench Tester

Direction

TF2000N

Calibration | Digital | Electric Power | Direct Reading | Fully Automatic

- Tool Management System with computer
- Ideal for Calibration Labs
- Fully automatic testing, judging, and data processing

Accuracy ±1%+1digit

Model	CH	Torque Range [N-m]		[kgf-cm]		[kgf-m]		[ozf-in]		[lbf-in]		[lbf-ft]	
		Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit
TF200N	1	5-200	0.05	50-2000	0.5	0.5-20	0.005	700-28000	5	50-1700	0.5	5-140	0.05
	2	0.5-20	0.005	5-200	0.05	0.05-2	0.0005	70-2800	0.5	5-170	0.05	0.5-14	0.005
TF500N	1	20-500	0.2	200-5000	2	2-50	0.02	3000-70000	20	200-4500	2	20-370	0.2
	2	2-50	0.02	20-500	0.2	0.2-5	0.002	300-7000	2	20-450	0.2	2-37	0.02
TF1000N	1	25-1000	0.25	250-10000	2.5	2.5-100	0.025	3500-140000	25	250-8500	2.5	25-700	0.25
	2	5-200	0.05	50-2000	0.5	0.5-20	0.005	700-28000	5	50-1700	0.5	5-140	0.05
	3	0.5-20	0.005	5-200	0.05	0.05-2	0.0005	70-2800	0.5	5-170	0.05	0.5-14	0.005
TF2000N	1	100-2100	1	1000-21000	10	10-210	0.1	15000-290000	100	1000-18000	10	100-1500	1
	2	20-500	0.2	200-5000	2	2-50	0.02	3000-70000	20	200-4500	2	20-370	0.2
	3	2-50	0.02	20-500	0.2	0.2-5	0.002	300-7000	2	20-450	0.2	2-37	0.02
TF3000N	1	200-3000	1	2000-30000	10	20-300	0.1	28000-420000	100	2000-25000	10	200-2000	1
	2	100-2100	1	1000-21000	10	10-210	0.1	15000-290000	100	1000-18000	10	100-1500	1
	3	20-500	0.2	200-5000	2	2-50	0.02	3000-70000	20	200-4500	2	20-370	0.2

Standard Accessories 2m × 2P Flat Type Plug

TF Standard Accessories

Hex Adapter, Ratchet Adapter, and Down Adapter

Model	Hex Adapter Dimensions [mm]	Ratchet Adapter Model	Down Adapter Model
TF200N	□12.7-17, 22, 27 □12.7-19, 24, 30 □9.53-10, 13, 19 □9.53-12, 14, 17	RA3mk2 RA4mk2	DA3-2 DA4-3
TF500N	□19.05-W22, 27, 29 □19.05-W30, 32, 36 □9.53-W10, 13, 19 □9.53-W12, 14, 17		DA3-2 DA6-4
TF1000N	□25.4-36, 46 □25.4-41, 51 □12.7-17, 22, 27 □12.7-19, 24, 30 □9.53-10, 13, 19 □9.53-12, 14, 17	RA3mk2 RA4mk2 RA8mk2	DA3-2 DA4-3 DA8-6
TF2000N	□25.4-36, 46 □25.4-41, 50 □19.05-22, 27, 29 □19.05-30, 32, 36 □9.53-10, 13, 19 □9.53-12, 14, 17	RA3mk2 RA6mk2 RA8mk2	
TF3000N	□38.1-W36, 46 □38.1-W41, 50 □25.4-W36, 46 □25.4-W41, 50 □19.05-W22, 27, 29 □19.05-W30, 32, 36	RA6mk2 RA8mk2 RA12	DA6-4 DA8-6 DA12-8

Note Refer to page 67.

TF Specifications and Dimension

Model	CH	Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Dimensions [mm] Overall Length	Width	Height	Weight [kg]
TF200N	1	1550	12.7	1860	550	930	240
	2	1480	9.53				
TF500N	1	1550	19.05				315
	2	1480	9.53				
TF1000N	1	1650	25.4	2160			380
	2	1550	12.7				
	3	1480	9.53				
TF2000N	1	2150	25.4	2660			415
	2	1550	19.05				
	3	1480	9.53				
TF3000N	1	2650	38.1	3160			450
	2	2150	25.4				
	3	1550	19.05				

TF: The tester performs automatic measurement and judgment.

3 Types of Measurement:

(1) Click type torque wrench measurement

(2) Direct type reading torque wrench measurement

(3) Manual measurement: free set measurement points, number of counts, and accuracy when checking unregistered wrenches, or single-value preset torque wrenches.

◆ Calibration Kit for TF

* Sold separately. Refer to page 62.

TCC2-G Digital Torque Wrench Tester

Direction

Calibration | Digital | Manual Handle | Direct Reading

- Torque calibrator with data management software with wide torque range
- Calibration, adjustment, and data management for torque wrenches
- Multiple measuring unit
- Slate PC controller

Accuracy ±1%+1digit

Model	CH	Torque Range [N·m]		Torque Range [kgf·cm]		Torque Range [lbf·in]		Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Dimensions [mm] Overall Length	Width	Height	Weight [kg]
		Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit						
TCC100N2-G	1	4-100	0.01	40-1000	0.1	35.5-885	0.1	575	12.7	714	388	375	35
	2	1-25	0.002	10-250	0.02	9-220	0.02	482	9.53				
TCC100N2-D-G	1	4-100	0.01	40-1000	0.1	35.5-885	0.1	575	12.7				
	2	20-600 cN·m	0.05 cN·m	2-60	0.005	2-50	0.005	482	6.35				
TCC500N2-G	1	20-500	0.05	200-5000	0.5	180-4400	0.5	1035	19.05	1206	502	430	75
	2	4-100	0.01	40-1000	0.1	36-880	0.1	769	12.7				
TCC1000N2-G	1	50-1000	0.1	500-10000	1	445-8800	1	1700	25.4	1906	574	526	115
	2	20-500	0.05	200-5000	0.5	180-4400	0.5	1212	19.05				

TCC2-G Standard Accessories

Model	Hex Adapter	DOWN ADAPTER	Others
TCC100N2-G	□12.7-W10, 13, 19 □12.7-W12, 14, 17	DA3-2 DA4-3	(1) Cradle for PC display (2) AC adapter for PC display (3) Power cable
TCC100N2-D-G		DA4-3	
TCC500N2-G	□12.7-W10, 13, 19 □12.7-W12, 14, 17 □19.05-W17, 22, 27 □19.05-W19, 24, 30	DA4-3 DA6-4	
TCC1000N2-G	□19.05-W17, 22, 27 □19.05-W19, 24, 30 □25.4-W36, 46 □25.4-W41, 50	DA6-4 DA8-6	

Note Refer to page 67.

TCC2-G Specifications

Display		10 inch slate PC
Tool Management Function		Torque wrench/driver registration date, measurement date memory (model, serial number, measurement point, measurement count, accuracy level, channel, measurer, past record) Maximum data amount (1000pcs worth) is based on testing torque wrenches of single force direction. When testing bi-direction torque wrenches such as BQSP, it will be less than 1000pcs)
Measurement Mode		Click mode / direct reading mode / manual mode
Zero Adjustment		Automatic (press C key)
Operation Temperature	[°C]	0 ~ 40 (no condensation)
Power	[V]	100 ~ 240V 50/60Hz

◆ Calibration Kit for TCC2-G

* Sold separately. Refer to page 62.

LC3-G Torque Wrench Line Checker

Direction

TUD TOHNICHI UNIFIED DESIGN

LC200N3-G

LC1000N3-G

Checking **Digital** **Manual Loading** **Direct Reading** RoHS

- For daily inspections of torque wrenches
- Newly added judgment function and USB output
- Multiple units of measure through keypad setup

Accuracy ±1%+1digit

Description	Mode	Torque Range cN·m Min.-Max.	1 digit	N·m Min.-Max.	1 digit	kgf·cm Min.-Max.	1 digit	kgf·m Min.-Max.	1 digit	lbf·in Min.-Max.	1 digit	lbf·ft Min.-Max.	1 digit	Inlet Drive [mm]	Weight [kg]
LC20N3-G	Run	50.0- 2000.0	0.2	0.500-20.000	0.002	5.00-200.00	0.02	-	-	5.00-174.00	0.02	-	-	9.5	10.5
	Peak	50.0-99.8	0.2	0.500-0.998	0.002	5.00-9.98	0.02	-	-	5.00-9.98	0.02	-	-		
		100-999	1	1.00-9.99	0.01	10.0-99.9	0.1	-	-	10.0-99.9	0.1	-	-		
		1000-2000	10	10.0-20.0	0.1	10-200	1	-	-	100-174	1	-	-		
LC200N3-G	Run	-	-	5.00-200.00	0.02	50.0-2000.0	0.2	-	-	50.0-1740.0	0.2	4.00-140.00	0.02	12.7	
	Peak	-	-	5.00-9.98	0.02	50.0-99.8	0.2	-	-	50.0-99.8	0.2	4.00-9.98	0.02		
		-	-	10.0-99.9	0.1	100-999	1	-	-	100-999	1	10.0-99.9	0.1		
		-	-	100-200	1	1000-2000	10	-	-	1000-1740	10	100-140	1		
LC1000N3-G	Run	-	-	50.0-1000.0	0.1	-	-	5.00-100.00	0.01	500-8800	1	36.8-735.0	0.1	19.0	34
	Peak	-	-	50.0-99.9	0.1	-	-	5.00-9.99	0.01	500-999	1	36.8-99.9	0.1		
		-	-	100-1000	1	-	-	10.0-100.0	0.1	1000-8800	10	100-735	1		
LC1400N3-G	Run	-	-	100.0-1400.0	0.2	-	-	10.00-140.00	0.02	900-12000	2	75.0-1000.0	0.2	25.4	39
	Peak	-	-	100-999	1	-	-	10.0-99.9	0.1	900-998	2	75.0-99.8	0.2		
		-	-	1000-1400	10	-	-	100-140	1	1000-9990	10	100-1000	1		
		-	-	-	-	-	-	-	-	10000-12000	100	-	-		

Note
1. Dimensions: L278mm × W160mm × H167mm (LC20N3-G, LC200N3-G)
   L500mm × W290mm × H186mm (LC1000N3-G)
   L500mm × W313mm × H186mm (LC1400N3-G)
2. Calibration kits (TCL models) are optional. Refer to page 62.
3. Max. 1000 measured data can be stored.

Standard Accessories AC Adapter/BA-6 (AC100-240V±10%)

LC3-G Standard Accessories

Hexagon Head Adapter

Part #	Applicable Model	Square Drive [mm]	Hex Size (Male) [mm]
282	LC20N3-G	9.5	8, 10, 12, 13, 14, 17
280	LC200N3-G	12.7	8, 10, 12, 13, 14, 17, 19, 22

Socket Adapter (P.41)

Part #	Applicable Model	Inlet Drive [mm]	Hex Size (Male) [mm]
270	LC20N3-G	6.35	9.5
272	LC200N3-G	9.5	12.7
274	LC1000N3-G	12.7	19.0
276	LC1400N3-G	19.0	25.4

◆ Calibration Kit for LC3-G/ST3-G

* Sold separately. Refer to page 62.

LC3-G Optional Accessories

Connecting Cable (P.47)

Part #	Applicable Models
383	LC3-G → PC, EPP16M3
385	LC3-G → PC

Note Contact Tohnichi for other types of connector shapes.

Battery Pack (P.47)

Model
BP-100-3

Printer (P.67)

Model
EPP16M3

Data Filing System (P.66)

Model	Media
DFS	CD-ROM

ST3-G ST3-G-BT

SPINTORK (Rotary Peak Torque Meter)

Direction

ST1000N3-G-BT

NEW

ST15N3-6.35-G

ST50N3-3/8-G

Checking **Digital** **Re-Chargeable** **Direct Reading** RoHS

- Ideal for checking nutrunner torque output and angle
- Data output through USB (ST3-G) and Bluetooth (ST3-G-BT)
- Tightening torque value can be detected by every 1° degree in bluetooth version.

ST3-G/ST3-G-BT Optional Accessories

Extension Bar

Part #	Applicable Models
283	ST10N3-G(-BT)
281	ST20N3-G(-BT), ST50N3-3/8-G(-BT)
247	ST50N3-1/2-G(-BT), ST100N3-G(-BT), ST200N3-G(-BT)
248	ST500N3-G(-BT)
249	ST1000N3-G(-BT)

ST3-G/ST3-G-BT Specifications

Torque Accuracy	+/- 1% +1digit
Angle Range	0 to 999°
Angle 1 digit	1°
Angle Accuracy	+/- 2°+1digit
Measuring Direction	Bi-direction
Display	7 segment LCD; Unit, Battery life, Direction Counter value: 3 digits (3mm height) Torque and angle value: 3 digits (7mm height)
Measuring Mode	PEAK/RUN
Data Memory	999
Data Output	USB / Bluetooth -BT models
Continuous Duty	10 hours / 5 to 8 hours -BT models
Power	Buit-in Ni-MH (Nickel hydrogen) battery pack
Operating temperature	0~40°C
BT Communication Distance	10m
Other Functions	Auto Memory/Reset (0.5-5 seconds variable), Auto Power Off (3/10/30 mins, Non), Display of remaining battery level (4 levels)

Accuracy ±1%+1digit

Model: Standard version	Model: Bluetooth version	Torque Range N.m Min.-Max.	1digit	cN.m Min.-Max.	1digit	kgf.cm Min.-Max.	1digit	kgf.m Min.-Max.	1digit	ozf.in Min.-Max.	1digit	lbf.in Min.-Max.	1digit	lbf.ft Min.-Max.	1digit	Overall Length [mm]	Inlet/Outlet Drive [mm]	Weight [kg]
NEW ST10N3-G	NEW ST10N3-G-BT	2-10	0.01	200-1000	1	20-100	0.1	0.2-1	0.001	285-1400	1	18-88	0.1	1.5-7.3	0.01	75	6.35	
NEW ST15N3-6.35-G	NEW ST15N3-6.35-G-BT	4-15	0.02	400-1500	2	40-150	0.2	0.4-1.5	0.002	570-2100	2	36-131	0.2	3-11	0.02	106.5	Hex 6.35	
NEW ST20N3-G	NEW ST20N3-G-BT	4-20	0.02	400-2000	2	40-200	0.2	0.4-2	0.002	570-2800	2	36-175	0.2	3-14.5	0.02		9.53	
NEW ST50N3-3/8-G	NEW ST50N3-3/8-G-BT	10-50	0.05	1000-5000	5	100-500	0.5	1-5	0.005	1420-7000	5	90-440	0.5	7.5-36.5	0.05			0.25
NEW ST50N3-1/2-G	NEW ST50N3-1/2-G-BT	10-50	0.05	1000-5000	5	100-500	0.5	1-5	0.005	1420-7000	5	90-440	0.5	7.5-36.5	0.05	75		
NEW ST100N3-G	NEW ST100N3-G-BT	20-100	0.1	-	-	200-1000	1	2-10	0.01	-	-	180-880	1	15-73	0.1		12.7	
NEW ST200N3-G	NEW ST200N3-G-BT	40-200	0.2	-	-	400-2000	2	4-20	0.02	-	-	360-1750	2	30-145	0.2			
NEW ST500N3-G	NEW ST500N3-G-BT	100-500	0.5	-	-	1000-5000	5	10-50	0.05	-	-	900-4400	5	75-365	0.5	120	19.05	1.3
NEW ST1000N3-G	NEW ST1000N3-G-BT	200-1000	1	-	-	-	-	20-100	0.1	-	-	-	-	150-735	1	135	25.4	

Note
1. Not for use with impact wrenches.
2. Graph of angle and torque can be created in Bluetooth version.
3. Data output of Bluetooth version is through Bluetooth only.
4. Refer to page 30 for condition of wireless equipment in each country for Bluetooth version.

Standard Accessories 1. Quick Battery Charger/BC-4-2 2. Battery Pack (built-in) 3. CD-ROM (USB Driver) 4. USB Connecting Cable/384 (384 is not attached with Bluetooth version) 5. Carrying Case

TDT3-G Digital Torque Screwdriver Tester

Direction

TDT600CN3-G with loading device (Model: STA)

Calibration | Digital | Manual Rotary | Direct Reading | Loading Device | RoHS

- Ideal for testing click and dial indicating torque screwdrivers
- Newly added judgment function and USB output
- Multiple units of measure through keypad setup
- Optional TDTLA3 for testing small torque wrenches and LTA for indicating type torque screwdrivers

Accuracy ±1%+1digit

Model	Torque Range								Inlet Drive	Dimensions [mm]			Weight
	cN·m		kgf·cm		ozf·in		lbf·in			Overall Length	Width	Height	
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	[mm]				[kg]
TDT60CN3-G	2-60	0.005	0.2-6	0.0005	3-80	0.005	0.2-5	0.0005	6.35 Hex (Male)	230	220	225	11
TDT600CN3-G	20-600	0.05	2-60	0.005	30-800	0.05	2-50	0.005	with a groove (0.7mm)				

Note
1. Loading device keeps stable measuring conditions to avoid reading errors.
2. Max 1,000 measured data can be stored.

Standard Accessories 1. AC Adapter/BA-6, 2. Loading Device/STA

TDT600CN3-G with loading device (Model: TDTLA3) * Sold separately

TDT600CN3-G with loading device (Model: LTA) * Sold separately

◆ Calibration Kit for TDT3-G

* Sold separately. Refer to page 62.

■ TDT3-G Optional Accessories

Connecting Cable (P.47)

Part #	Applicable Models
383	TDT3-G → PC, EPP16M3
385	TDT3-G → PC

Battery Pack (P.47)

Model
BP-100-3

Loading Device

Model
TDTLA3
LTA
STA

As for TDTLA3, TDT60CN3-G measures 2-60 cN·m and TDT600CN3-G measures 20-600cN·m range of torque wrenches.
LTA is for direct reading torque drivers such as FTD and STC.
STA is for tightening torque driver such as RTD and LTD.

Printer (P.67)

Model
EPP16M3

Data Filing System (P.64)

Model	Media
DFS	CD-ROM

Hex Adapter

Part #	Description
480	1/4-5.5-8-12
481	1/4-6-10-13
482	1/4-7-11-14
483	1/4-16-19-22
484	1/4-17-21-24

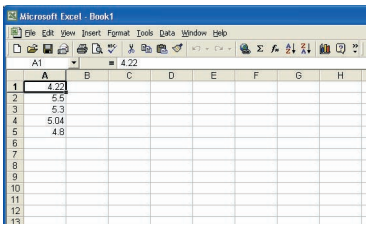
Loading Device Connecting Adapter

Part #	Description
485	STA, TDTLA3, LTA to TDT, TDT2-G

Excel Receiver Software

The Excel Receiver software allows for the transfer of collected torque data from various Tohnichi digital torque equipment into a Microsoft Excel worksheet. Tohnichi also provides customized software upon request.

Excel Receiver is compatible with the following equipment:



ExRcv

CEM100N3×15D-G

CEM3-G: ExRcv for CEM

CTB100N2×15D-G

CTB2-G: ExRcv for CTB

CPT-G: ExRcv for CPT

TDT600CN3-G

TDT600CN3-G+TDTLA3

TDT3-G: ExRcv for TDT

DOTE100N3-G

DOTE3-G: ExRcv for DOTE

LC200N3-G

LC3-G: ExRcv for LC

ST50N3-3/8-G ST1000N3-G-BT

ST3-G: ExRcv for ST

ATGE5CN-G

BTGE200CN-G

ATGE-G/BTGE-G: ExRcv for ABTGE

2TME500CN2

TME2: ExRcv for TME

CD5

CD5: ExRcv for CD

STC200CN2-G

STC2-G: ExRcv for STC2-G

ATG/BTG

Analog Torque Gauge

Direction

Dial Indicating **3-jaw Chuck** **Direct Reading** RoHS

- Compact portable handheld design
- Top and side scales for easy reading
- Three fingered keyless chuck

ATG6CN

BTG36CN

Accuracy ±2%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		Overall Length	Outside Diameter	
				gf·cm	gf·cm		ozf·in	ozf·in				
ATG045CN	0.05-0.45	0.01	45ATG	5-45	1	ATG06Z	0.06-0.6	0.01				
ATG09CN-S	0.1-0.9	0.02	90ATG-S	10-90	2	ATG1.5Z-S	0.2-1.5	0.02				
ATG1.5CN-S	0.2-1.5		150ATG-S	20-150		ATG2.4Z-S	0.3-2.4	0.05				
ATG3CN-S	0.3-3	0.05	300ATG-S	30-300	5	ATG4.5Z-S	0.5-4.5	0.1	φ1-φ6.5	99	43.5	0.18
ATG6CN-S	0.6-6	0.1	600ATG-S	60-600	10	ATG9Z-S	1-9	0.2				
ATG12CN-S	1-12	0.2	1200ATG-S	100-1200	20	ATG18Z-S	2-18	0.5				
ATG24CN-S	3-24	0.5	2400ATG-S	300-2400	50	ATG36Z-S	4-36	0.5				
-	-	-	-	-	-	BTG60Z-S	6-60	1				
-	-	-	-	-	-	BTG120Z-S	10-120	2				
				kgf·cm	kgf·cm		lbf·in	lbf·in				
BTG15CN-S	2-15	0.2	1.5BTG-S	0.2-1.5	0.02	1.5BTG-A-S	0.1-1.5	0.02				
BTG24CN-S	3-24	0.5	2.4BTG-S	0.3-2.4	0.05	2.4BTG-A-S	0.3-2.4	0.02	φ1-φ8.5	135	64.2	0.52
BTG36CN-S	4-36		3.6BTG-S	0.4-3.6		3.6BTG-A-S	0.4-3.6	0.05				
BTG60CN-S	6-60	1	6BTG-S	0.6-6	0.1	6BTG-A-S	0.6-6	0.1				
BTG90CN-S	10-90		9BTG-S	1-9		9BTG-A-S	1-9	0.1				
BTG150CN-S	20-150	2	15BTG-S	2-15	0.2	15BTG-A-S	2-15	0.2				

Note

1. ATG045CN, 45ATG and ATG06Z are provided without side or top memory pointer.
2. "Without memory pointer" models are available. Remove "-S" from the model name when ordering. (Ex. ATG09CN, BTG15CN)
3. Aluminum case and steel chuck are standard for ATG models. Plastic case and chuck can be ordered separately.

ATG Optional Accessories

Part #	Description
322	Plastic Case and Chuck

ATGE-G

Digital Torque Gauge

Direction

Digital **3-jaw Chuck** **Direct Reading** **Battery** RoHS

- Digital torque gauge with pull out display
- For measurement, inspection and tightening of low torque range
- 3 way configuration; hand-held, table top or as a torque meter with testing fixture

ATGE5CN-G

Accuracy ±2%+1digit

Model	Torque Range								Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	[cN·m]		[mN·m]		[gf·cm]		[ozf·in]			Overall Length	Outside Diameter	
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit				
ATGE05CN-G	0.1-0.5	0.001	1-5	0.01	10-50	0.1	0.15-0.7	0.001				
ATGE1CN-G	0.2-1	0.001	2-10	0.01	20-100	0.1	0.3-1.4	0.001				
ATGE2CN-G	0.4-2	0.002	4-20	0.02	40-200	0.2	0.6-2.8	0.002	φ1-6.5	120	67	0.305
ATGE5CN-G	1-5	0.005	10-50	0.05	100-500	0.5	1.5-7	0.005				
ATGE10CN-G	2-10	0.01	20-100	0.1	200-1000	1	3-14	0.01				
ATGE20CN-G	4-20	0.02	40-200	0.2	400-2000	2	6-28	0.02				

Note Aluminum case and steel chuck are standard for ATGE-G models. Plastic case and chuck/322 (page 59) is sold separately.

Standard Accessories Coin-type lithium battery (built-in the body), Carrying case

ATGE-G Common Specifications

Direction	CW/CCW
Display	7 segment LCD display, Counter 3 digits (character height 3mm), Torque value: 4 digits (character height 7mm) Torque unit, Battery indicator, Direction
Mode	PEAK/RUN
Data Memory	999 readings
Statistic Prosessing	Sample size, Max. value, Min. value, Mean value
Data Output	USB output (USB mini B connector)
Power	Coin-type lithium battery (CR2450)
Continuous in Use	Approx. 10 hours when using coin battery
Other Functions	Auto power off (3 min.), Auto memory reset (0.5-5) seconds variable, Auto zero adjustment, Residual battery indicator (4 steps), Buzzer ON/OFF, Unit Conversion
Operating Temperature	0 to 40°C non condensing
Standard Options	Coin battery (built in), Carrying case

◆ Calibration Kit for ATG/BTG/ATGE-G/BTGE-G

* Sold separately. Refer to page 62.

BTGE-G

Digital Torque Gauge

Direction

Digital **3-jaw Chuck** **Direct Reading** **Battery** RoHS

- Multiple units of measure through keypad setup
- For measurement, inspection and tightening of low torque ranges
- Flip-up display can be adjusted for optimal reading

BTGE200CN-G

Accuracy ±2%+1digit

Model	Torque Range								Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	[cN·m]		[kgf·cm]		[ozf·in]		[lbf·in]			Overall Length	Outside Diameter	
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit				
BTGE10CN-G	2-10	0.01	0.2-1	0.001	3-14	0.01	0.2-0.88	0.001	ϕ1-ϕ8.5	130	75	0.65
BTGE20CN-G	4-20	0.02	0.4-2	0.002	6-28	0.02	0.4-1.7	0.002				
BTGE50CN-G	10-50	0.05	1-5	0.005	15-70	0.05	1-4.4	0.005				
BTGE100CN-G	20-100	0.1	2-10	0.01	30-140	0.1	2-8.8	0.01				
BTGE200CN-G	40-200	0.2	4-20	0.02	60-280	0.2	4-17	0.02				

Note
1. Can be used for checking accuracy of torque screwdrivers.
2. Max 999 readings can be saved with statistical function max/min/mean values.

BTGE-G Optional Accessories

Connecting Cable (P.47)

Part #	Applicable Models
384	BTGE-G (USB mini B) → PC (USB A)

Measurement Board

Model
809

BP-C1

Battery Pack

Model
BP-C1

ATG/BTG/ATGE-G/BTGE-G Optional Accessories

No.808

ATGE-G/BTGE-G Measurement stand

To firmly fix ATGE-G/BTGE-G to use as table top configuration

Part #	Applicable Models
808	ATGE-G
809	BTGE-G

No.800

Table attachment

4 poles are designed to clamp objects of any shape (Chucking diameter ϕ10-ϕ58)

Part #	Applicable Models
800	ATGE-G/BTGE-G

No.806

Calibration adapter for ATGE-G/BTGE-G

Adapter for calibration devices (ATGTCL/BTGTCL) to mount on ATGE-G/BTGE-G

Part #	Applicable Models
806	ATGE-G
807	BTGE-G

BA-5

Adapter for USB connector

External power supply adapter for ATGE-G/BTGE-G with using USB connecting cable.

Part #	Applicable Models
BA-5	ATGE-G/BTGE-G

No.384

USB connecting cable

Cable for external USB data output or connecting BA-5

Part #	Applicable Models
384	ATGE-G/BTGE-G

No.322

Plastic chuck

Plastic chuck for fragile objects

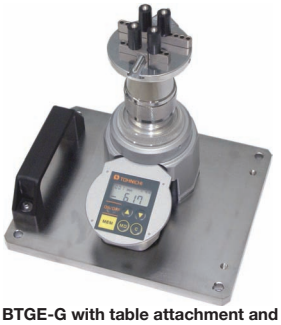
Part #	Applicable Models
322	ATG/ATGE-G

BP-C1

Battery pack

Part #	Applicable Models
BP-C1	BTGE-G

ATGE-G with table attachment and measurment stand



BTGE-G with table attachment and measurment stand

TME2 Digital Torque Meter

Direction

2TME500CN2

Digital | Pole Clamping | Direct Reading | RoHS

- Ideal for testing torque on bottle caps
- Up to 99 measured data can be stored.

Accuracy ±1%+1digit

S.I. Model	Torque Range [cN·m] Min.-Max.	1 digit	Metric Model	Torque Range [gf·cm/kgf·cm] Min.-Max.	1 digit	American Model	Torque Range [ozf-in/lbf-in] Min.-Max.	1 digit	Chuck Size [mm]	Dimensions [mm] Overall Length	Width	Height	Weight [kg]
				gf·cm	gf·cm		ozf-in	ozf-in					
3TME10CN2	2.00-10.00	0.01	3TME10CN2-M	200-1000	1	3TME10CN2-Z	2.80-14.00	0.01					
3TME20CN2	4.00-20.00	0.02	3TME20CN2-M	400-2000	2	3TME20CN2-Z	5.60-28.00	0.02					
3TME50CN2	10.00-50.000	0.05	3TME50CN2-M	1000-5000	5	3TME50CN2-Z	14.00-70.00	0.05	φ14-φ110	252	158	185	3.5
				kgf·cm	kgf·cm								
3TME100CN2	20.0-100.0	0.1	3TME100CN2-M	2.00-10.00	0.01	3TME100CN2-Z	28.00-140.0	0.1					
							lbf-in	lbf-in					
2TME200CN2	40.0-200.0	0.2	2TME200CN2-M	4.00-20.00	0.02	2TME200CN2-I	3.50-17.00	0.02					
2TME500CN2	100.0-500.0	0.5	2TME500CN2-M	10.00-50.00	0.05	2TME500CN2-I	8.80-44.00	0.05	φ18-φ190	331	223	283	12
2TME1000CN2	200-1000	1	2TME1000CN2-M	20.0-100.0	0.1	2TME1000CN2-I	17.6-88.00	0.1					
2TME2000CN2	400-2000	2	2TME2000CN2-M	40.0-200.0	0.2	2TME2000CN2-I	35.0-175.0	0.2					

Note

1. Can be used for checking accuracy of torque screwdrivers.
2. Max. 99 measured data can be stored.
3. Calibration kits (TMTCL models) are optional. Refer to page 62.
4. Statistical Data: Hi, Lo, Sample, Ave., Range Variation, and Standard Deviation

Standard Accessories

1. AC Adapter/BA-4
2. Rubber Nail
3. Supportive Plate (for 2TME2 only)

TME2 Optional Accessories

Connecting Cable (P.47)

Part #	Applicable Models
383	TME2 → PC, EPP16M3

Printer (P.67)

Model
EPP16M3

Data Filing System (P.66)

Model	Media
DFS	CD-ROM

Battery Pack (P.47)

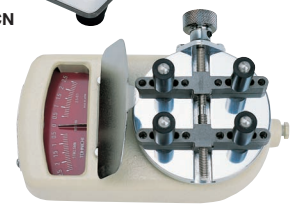
Model
BP-100-3

TM Analog Torque Meter

Direction

TUD TOHNICHI UNIFIED DESIGN

2TM400CN



5TM2.5MN

Pole Clamping | Direct Reading | RoHS

- Dial indicating
- Wide variety of torque testing ranges

Accuracy ±2%

S.I. Model Standard	S.I. Model With Memory Pointer	Torque Range [mN·m/cN·m] Min.-Max.	Grad.	American/Metric Model	American Torque Range [lbf-in] Min.-Max.	Grad.	Metric Torque Range [kgf·cm/gf·cm] Min.-Max.	Grad.	Dimensions [mm] Overall Length	Width	Height	Chuck Size	Weight [kg]
		mN·m	mN·m				gf·cm	gf·cm					
4TM10MN	4TM10MN-S	1-10	0.2	4-TM100-A-S	0.01-0.086	0.002	10-100	2					
4TM15MN	4TM15MN-S	1.5-15	0.5	4-TM150-A-S	0.02-0.13	0.005	15-150	5					
4TM25MN	4TM25MN-S	2.5-25		4-TM250-A-S	0.025-0.215		25-250						
4TM50MN	4TM50MN-S	5-50	1	4-TM500-A-S	0.05-0.43	0.01	50-500	10					
4TM75MN	4TM75MN-S	8-75	2	4-TM750-A-S	0.08-0.65	0.02	80-750	20					
		cN·m	cN·m				kgf·cm	kgf·cm	252	158	109.5	φ14-φ110	3
3TM10CN	3TM10CN-S	1-10	0.2	3-TM1-A-S	0.1-0.86	0.02	0.1-1	0.02					
3TM15CN	3TM15CN-S	1.5-15	0.5	3-TM1.5-A-S	0.15-1.3	0.05	0.15-1.5	0.05					
3TM25CN	3TM25CN-S	2.5-25		3-TM2.5-A-S	0.25-2.15		0.25-2.5						
3TM50CN	3TM50CN-S	5-50	1	3-TM5-A-S	0.5-4.3	0.1	0.5-5	0.1					
3TM75CN	3TM75CN-S	8-75	2	3-TM7.5-A-S	0.8-6.5	0.2	0.8-7.5	0.2					
2TM100CN	2TM100CN-S	10-100	2	2-TM10-A-S	1-8.6	0.2	1-10	0.2					
2TM150CN	2TM150CN-S	20-150		2-TM15-A-S	2-13		2-15						
2TM200CN	2TM200CN-S	30-200		2-TM20-A-S	3-17		3-20						
2TM300CN	2TM300CN-S	30-300	5	2-TM30-A-S	3-26	0.5	3-30	0.5	331	223	133.5	φ18-φ190	10.5
2TM400CN	2TM400CN-S	40-400		2-TM40-A-S	3.5-35		4-40						
2TM500CN	2TM500CN-S	50-500		2-TM50-A-S	4-43		5-50						
2TM600CN	2TM600CN-S	60-600	10	2-TM60-A-S	5-50	1	6-60	1					
2TM750CN	2TM750CN-S	80-750		2-TM75-A-S	7-65		8-75						

Note "-S" models are provided with a memory pointer.

Low Capacity (below 7.5 mN·m) Torque Meter

Accuracy ±2%

S.I. Model	Torque Range [mN·m] Min.-Max.	Grad.	Metric Model	Torque Range [gf·cm] Min.-Max.	Grad.	American Model	Torque Range [ozf-in] Min.-Max.	Grad.	Dimensions [mm] Overall Length	Width	Height	Chuck Size	Weight [kg]
5TM1MN	0.2-1	0.05	5-OT10	2-10	0.5	5TM0.15Z	0.02-0.15	0.005					
5TM1.5MN	0.2-1.5		5-OT15	2-15		5TM0.2Z	0.04-0.2	0.01					
5TM2.5MN	0.5-2.5	0.1	5-OT25	5-25	1	5TM0.35Z	0.05-0.35		122	76.5	59	φ6-φ58	0.3
5TM5MN	1-5	0.2	5-OT50	10-50	2	5TM0.7Z	0.3-0.7	0.02					
5TM7.5MN	1-7.5		5-OT75	10-75		5TM1Z	0.2-1	0.05					

Note

1. 5TM models are supplied without memory pointer.
2. When calibrating the 5TM models, ask Tohnichi for assistance.

◆ Calibration Kit for TME2/TM

* Sold separately. Refer to page 62.

TCF Fixed Type Torque Sensor

CD5

TCF20N

Display (Sold separately)

Voltage Output **Fixed** RoHS

- Requires CD5 to display torque reading

S.I. Model	Torque Range [N·m] Min.-Max.	Metric Model	Torque Range [kgf·cm] Min.-Max.	American Model	Torque Range [lbf-in/lbf-ft] Min.-Max.	Inlet Drive [mm]	Dimensions Height [mm]	Dimensions Diamater [mm]	Weight [kg]
					lbf-in				
TCF02N	0.02-0.2	TCF1.8	0.18-1.8	TCF1.8I	0.18-1.8		56		0.45
TCF04N	0.04-0.4	-	-	TCF3.5I	0.35-3.5				
TCF1N	0.1-1			TCF9I	0.9-9.0	6.35		45	
TCF2N	0.2-2	TCF18	1.8-18	TCF18I	1.8-18		62.5		0.5
TCF4N	0.4-4	-	-	TCF35I	3.5-35				
TCF10N	1-10			TCF90I	9.0-90				
TCF20N	2-20	TCF180	18-180	TCF180I	18-180	9.5	66	70	0.6
TCF40N	4-40			TCF350I	38-350				
		-	-		lbf-ft				
TCF100N	10-100			TCF75F	7.5-75	12.7	100	105	2.5
TCF200N	20-200	TCF1800	180-1800	TCF150F	15-150				
TCF400N	40-400	-	-	TCF300F	30-300	19.0	135	140	6
TCF1000N	100-1000			TCF750F	75-750	25.4	180	178	12
TCF2000N	200-2000	TCF18000	1800-18000	TCF1500F	150-1500				

Note
1. Calibration kits (TCL models) are optional. Refer to page 62.
2. Display (CD5) is sold separately.

Standard Accessories Connecting Cable

Attachment for TCF (Sold separately)

TP18N+TCF20N

DTF5-2+TCF20N

TTF11+ATF18+TCF20N

TP (Test Piece): Torque measurement for power torque tools

Model	Torque Range S.I. [N·m] Min.-Max.	Torque Range Metric [kgf·cm] Min.-Max.	Torque Range American [lbf-in/lbf-ft] Min.-Max.	Applicable TCF Model	Inlet Width Across Flats [mm]	Inlet Nominal Size of Screw	Dimensions Diameter [mm]	Dimensions Height [mm]	Weight [kg]
			lbf-in						
TP2.5N	0.25-2.5	2.5-25	2-22	TCF02N-TCF4N	8	M4	18	58	0.08
TP18N	1.8-18	18-180	16-160	TCF10N, TCF20N	13	M6	35	83.5	0.27
			lbf-ft						
TP180N	18-180	180-1800	30-130	TCF40N-TCF200N	24	-	65	148	1.9
TP1800N	180-1800	1800-18000	130-1300	TCF400N-TCF2000N	50		140	297.5	16.8

Note
1. Adapter 4H-3 (#273) is necessary for TCF40N.
2. Adapter 8P-6 (#295) is necessary for TCF400N.

DTF (Drill Chuck): Torque measurement for axial work pieces

Model	Applicable TCF Models	Chuck Size [mm]	Square Drive [mm]	Dimensions Diamater [mm]	Dimensions Height [mm]
DTF5-3	TCF02N-TCF4N	Max. ϕ5	6.35	33	65
DTF5-2	TCF10N-TCF40N		9.5		61

TTF/ATF: Table/Fixture: Ideal for testing torque on bottle caps

Model TTF	Model ATF	Applicable TCF	Chuck Size [mm]	Table Dia. [mm]
TTF7	ATF1.8-2	TCF02N-TCF4N	ϕ10-70	ϕ70
TTF11	ATF18	TCF10N-TCF20N	ϕ14-110	ϕ110
TTF19	ATF1.8-2	TCF2N-TCF4N	ϕ18-190	ϕ180
	ATF18	TCF10N-TCF20N		

Note ATF attachment is required to fix TTF table.

TCR Rotary Type Torque Sensor

CD5

TCR18N

Display (Sold separately)

Voltage Output **Rotary** RoHS

- Captures directly applied torque
- Requires CD5 to display torque reading

S.I. Model	Torque Range [N·m] Min.-Max.	Metric Model	Torque Range [kgf·cm] Min.-Max.	American Model	Torque Range [lbf-in/lbf-ft] Min.-Max.	Allowable Rotation [r.p.m]	Square Drive [mm]	Height [mm]	Width [mm]	Weight [kg]
					lbf.in					
TCR18N	1.8-18	TCR180	18-180	TCR180-A	16-160		9.5	91	76	0.9
					lbf.ft	2000				
TCR180N	18-180	TCR1800	180-1800	TCR1800-A	13-130		12.7	104	83	1.3
TCR700N	70-700	TCR7000	700-7000	TCR7000-A	50-500	1000	19.0	118.5	95	2.0
TCR1800N	180-1800	TCR18000	1800-18000	TCR18000-A	130-1300		25.4	138.5	110	3.6

Note
1. Calibration kits (TCL models) are optional. Refer to page 62.
2. Display (CD5) is sold separately.

Standard Accessories Connecting Cable

◆ Calibration Kit for TCF/TCR

* Sold separately.
Refer to page 62.

Calibration Kit

◆ Calibration Kit for DOTE3-G/DOT RoHS

Model	Description				
	Calibration Lever	Stand	Reaction Unit	Scale Holder	Applicable Models
DOTCL36N	KL-DOTCL36N	KS-DOTCL	RU-DOTCL100N	WT0.5	DOT35N DOT50N DOTE20N3-G DOTE50N3-G
DOTCL100N	KL-DOTCL100N			WT1	DOT100N DOTE100N3-G
DOTCL200N	KL-DOTCL200N				DOTE200N3-G
DOTCL360N	KL-DOTCL360N		RU-DOTCL360N	WT5	DOT300N
DOTCL700N	KL-DOTCL700N		RU-DOTCL700N		DOTE500N3-G DOT700N
DOTCL1000N	KL-DOTCL1000N				DOTE1000N3-G

◆ Calibration Kit for TF RoHS

Model	Description			
	Calibration Lever, Adapter	Stand	Wire	Applicable Models
TFTCL200N	Lever × 2 Adapter × 2	1 Set	Wire × 4	TF200N
TFTCL500N				TF500N
TFTCL1000N	Lever × 3 Adapter × 2		Wire × 6	TF1000N
TFTCL2000N				TF2000N
TFTCL3000N	Lever × 3 Adapter × 1			TF3000N

Note Supplied upon request.

◆ Calibration Kit for TCC2-G RoHS

Model	Description				Optional Item	Applicable Models
	Calibration Lever	Stand	Wire	Scale Holder	Weight	
TCCTCL100N2	Lever × 2	1 Set	Wire × 2	100g × 1,	1kg × 1, 2kg × 2,	TCC100N2-G
TCCTCL100N2-D			Wire × 3	1kg × 1	5kg × 3, Weight Set	TCC100N2-D-G
TCCTCL500N2			Wire × 4	500g × 1 1kg × 1 5kg × 1	1kg × 1, 2kg × 2, 5kg × 9, Weight Set	TCC500N2-G
TCCTCL1000N2			Wire × 2	1kg × 1 5kg × 1	1kg × 1, 2kg × 2, 5kg × 13, Weight Set	TCC1000N2-G

Note Contact Tohnichi in case you have DOTCL.

◆ Calibration Kit for TDT3-G RoHS

Model	Description	Applicable Models
TDTCL60CN	Calibration Lever × 1, Wire × 1, Calibration Roller × 1, Scale Pan (100g) × 1, Scale Holder (1kg) × 1,	TDT60CN3-G
TDTCL600CN	Calibration Lever × 1, Wire × 1, Calibration Roller × 1, Scale Pan (100g) × 1, Scale Holder (1kg) × 1,	TDT600CN3-G

RoHS

◆ Calibration Kit for ATG/BTG/ATGE-G/BTGE-G

Model	Description	Applicable Models
ATGTCL24CN	Main Unit, Calibration Pulley × 2, Wire × 2, Scale Pan (5g, 100g)	ATG/ATGE-G
BTGTCL150CN	Main Unit, Calibration Pulley × 2, Wire × 3, Scale Pan (5g, 100g)	BTG/BTGE-G

Note Adapter (#807) is required when calibrating BTGE models.

◆ Calibration Kit for TME2/TM RoHS

Model	Description	Applicable Models
2TMTCL	Wire × 1, Roller × 1, Frame × 1, Bolt × 2, Scale Holder (1kg) × 1, Scale Pan (100g) × 1	2TM/2TME2
3TMTCL	Wire × 1, Roller × 1, Frame × 1, Bolt × 2, Scale Pan (5g × 1, 100g × 1)	3TM/4TM/3TME2

◆ Calibration Kit for LC3-G/ST3-G/TCF/TCR RoHS

Model	Description	Applicable Models
TCL50N	Calibration Lever, Wire, Scale Holder (1kg), Scale Pan (100g)	TCF10N-TCF40N, TCR18N LC20N3-G, ST10N3-G-ST50N3-1/2-G
TCL200N	Calibration Lever, Wire, Scale Holder (1kg)	TCF100N-TCF200N, TCR180N LC200N3-G, ST100N3-G-ST200N3-G
TCL800N	Calibration Lever, Wire, Scale Holder (10kg)	TCF400N, TCR700N, ST500N3-G
TCL1000N	Calibration Lever, Wire, Scale Holder (5kg)	TCF1000N, ST1000N3-G, LC1000N3-G
TCL2000N	Calibration Lever, Wire, Scale Holder (10kg)	TCF2000N, TCR1800N, LC1400N3-G

Note
1. TCL1000N and TCL2000N are supplied upon request.
2. #271 is required when calibrating ST10N2.

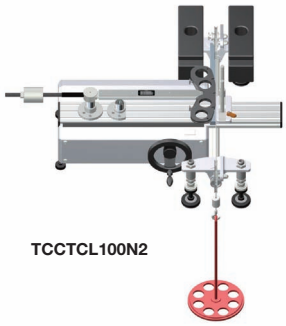
DOTCL100N

TFTCL2000N

TDTCL600CN

ATGTCL24CN

2TMTCL



TCCTCL100N2

TCL200N

◆ Weight RoHS

Model	Weight
WP-TCL5	5kg
WP-TCL2	2kg
WP-TCL1	1kg
WS-TCL2	Weight Set (2kg)

Note
1. A dead weight is available for sale.
2. Calibration certificate for dead weight is available on request, charged option.

BTM/ B-BTM

Bolt Tension Meter

Dial Indicating **Hydraulic** **Bourdon Type**

- Bourdon type hydraulic bolt tension meter
- Measure bolt tension to determine optimal torque

BTM400K

B-BTM13K

Accuracy ±3%

S.I. Model	Axial Tension Range [kN]		Metric Model	Axial Tension Range [ton]		American Model	Axial Tension Range [lbf]		Applicable Nominal Diameter of Bolts (Minimum Length)	Dimensions			Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[mm]	Overall Length [mm]	Overall Thickness [mm]	Overall Height [mm]	[kg]
BTM400K	100-400	5	40BTM-2	10-40	0.5	40BTM-2-A	23000-90000	1000	Hexagon Bolt M16 (70), M20 (75) M22 (80), M24 (85) Torsia Bolt M16 (65), M20 (70) M22 (75), M24 (80)	260	64	280	12.6
B-BTM13K	1.2-13	0.2	1.3B-BTM	0.12-1.3	0.02	1.3B-BTM-A	300-2800	50	Standard Bolt M5 (20), M6 (21) M7 (22), M8 (23)	106	78	217	7.7
B-BTM40K	4-40	0.5	4B-BTM	0.4-4	0.05	4B-BTM-A	1000-9000	100	Standard Bolt M10 (29), M12 (31) M14 (32)	134	82	241	9.8
B-BTM130K	12-130	2	13B-BTM	1.2-13	0.2	13B-BTM-A	3000-28000	500	Standard Bolt M16 (41), M18 (43) M20 (44), M24 (47)	186	106	287	17.5
B-BTM400K	40-400	5	40B-BTM	4-40	0.5	40B-BTM-A	1000-90000	1000	Standard Bolt M27 (72), M30 (74) M36 (79), M42 (84)	280	126	369	31.0

Note

1. BTM400K comes with a plate and bushing for torsia bolt M20 and M22. Other plates and bushings are optional.
2. "Hexagon Bolt" in the above list stands for the high-tensile hexagon bolt for friction bonding.

Standard Accessories Plate, Bushing, Spanner for plate, Bolt for plate, Storage Case, Calibration Certificate

BTM Optional Accessories

Bushing for Hexagon Bolt

Part #	Applicable Nominal Diameter of Bolts
650	M16
651	M20
652	M22
653	M24

Bushing for Torsia Bolt

Part #	Applicable Nominal Diameter of Bolts
665	M16
666	M20
667	M22
668	M24

Plate for Torsia Bolt/Hexagon Bolt

Part #	Applicable Nominal Diameter of Bolts
669	M16
670	M20
671	M22
672	M24

Fcon

Bolt Tension Stabilization

RoHS

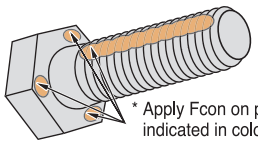
- Creates consistent bolt tension
- Applied to fasteners and nuts
- Acquisition of patent in EU.

Fcon

Model
Fcon

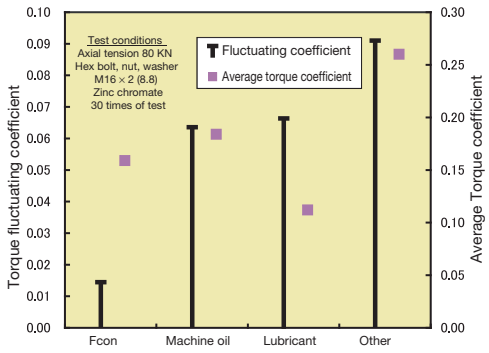
Sales Unit: 10pcs/case
Content: 90g/bottle

How to apply Fcon on the bolt (in case of M10 bolt)
Follow the illustration below. Apply some along the screw thread (2 mm width more or less), and on the bearing surface at 3 different spots evenly. Use appropriate amount depending on the size of the bolt.



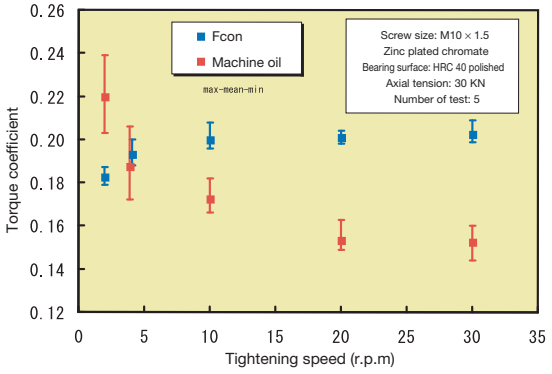
* Apply Fcon on part indicated in color.

Axial Tension Stability Characteristics



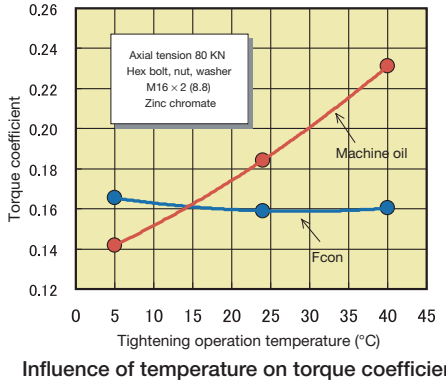
Characteristic of axial tension stabilization
Torque coefficient calculated by formula K = t/(d × f)
T = tightening torque, d = nominal size of screw,
F = axial tension
Torque fluctuating coefficient =
torque coefficient standard deviation/average torque coefficient

Influence of Tightening Speed



Influence of tightening speed on torque coefficient

Influence of Temperature



Influence of temperature on torque coefficient

TT2000 Ultrasonic Tension Meter

Digital **Direct Reading**

- Non-destructive axial bolt tension tester
- Input information regarding fastener & materials
- Sound wave lengths are measured and compared.

TT2000

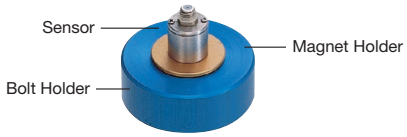
Model
TT2000
TT2000C
TT2000M

TT2000 Specifications

Measuring Range	5-10,000mm (Steel material)
Applicable Length of Bolt	50-9,000mm
Applicable Nominal Diameter of Bolt	φ6mm dia or more (Applicable for less than φ6mm dia. with an optional sensor)
Ultrasonic Wave Frequency	0.5-15 MHz
Time Axis Resolution	5ns
Result of Measurement	Bolt initial length (mm), Stress (Mpa), Elongation (mm), Propagation rate (μs)
Measuring Resolution	Depends on bolt diameter and length [Ex.] Based on the first echo measurement (steel material) Bolt diameter φ10, Bolt tightening length 50mm ±approx. 1.47kN Bolt diameter φ20, Bolt tightening length 100mm ± approx. 2.94kN
Memory Capacity of Data	2,000pcs. or time pass measurement 300 items (Max. 50 kinds of different bolts can be registered)
Bolt Temperature Correction	Manual input by key, Auto temperature input *1
Display	Color TFT6.4 type (640 × 480dots)
External Output	8 bits serial interface (RS232C) *2 Composite output (NTSC), Alarm output (photo coupler), Encoder input *3
Power Supply	AC85-130V, AC185-265V (50/60Hz) or DC12V *4
Optional Battery	Portable: 2.5h use for 1.5h Charge Built -in case: 8h use for 4.5h charge
Temperature of Use	0-45 Celsius
Dimensions	Body: H160 × W246 × D60mm Body + Built-in battery: H160 × W246 × D246mm
Weight	Body: 1.2kg Body + built-in battery:4.9kg

Note

1. Optional thermometer can be connected to TT2000C and TT2000M for auto temperature adjustment Input temperature range is from -40°C to 200°C. Measurement over 60°C requires a sensor specially designed for high temperature.
2. RS232C connector is available only with TT2000C and TT2000M.
3. Composite output, alarm output and encoder input are available only when using a multi connector box (TT2000M) or optional built-in battery case.
4. DC12V can be used only when using the optional portable battery or the built-in battery case.
5. Certificate of calibration is available on request, charged option.



■ TT2000 Optional Accessories

Model Name
RS232C Junction Cable A
Portable Battery Cable
RS232C Junction Cable B
Battery Built-in Body
Handy Type Cover
Portable Type Cover
TT2000 Carrying Case
Portable Battery Pack
Light Shielding Hood
Carrying Case for Body with Battery Built-in Body

Axial Tension Calibrator

Model
AFC-20G

Ultrasonic Sensor

Part #	Name	Applicable Bolts
606	5C4.8N	More than M6, L1<approx.80mm
607	5C6.4N	More than M8, L1<approx.50cm
608	5C12.7N	More than M14, L1<approx.2m
609	5C19.1N	More than M20, L1<approx.4m

Note

1. L1 is standard bolt length with material in SCM, S-C, SS for ultrasonic wave reflection measurement n=1.
2. Ultrasonic wave sensor is consisting of 3 parts, Sensor, Magnet Holder and Bolt Holder.
3. Standard 5C6. 4N does not include bolt holder.
4. 5C6.4N=[5: Frequency (MHZ)]
   [C: Oscillator Material (C: piezoelectric ceramics)]
   [6.4: Oscillator Diameter, mm]
   [N: Perpendicular (Normal)]

Features of ultrasonic wave sensor

1. The magnetic holder provides stabilized force through the sensor, which provides high repeatability measurement.
2. The bolt holder gives same position of the sensor to support more accurate measurement.

FP Force Pen

Voltage Output **Pen**

- Pen style force sensor
- Compact, lightweight, user friendly operation
- Requires CD5 Compact Display

Model	Measurement Range [N]	Rated Output	Accuracy	Allowable Overload	Display (Option)	Weight [g]
FP1	±0.1-1	1mV/V	±1% F.S.	150%	CD42	80
FP2	±0.2-2					
FP4	±0.4-4					
FP10	±1-10					
FP20	±2-20					
FP40	±4-40					

Note
1. Display (CD5) is optional.
2. FP models are supplied upon request.

Standard Accessories Standard Attachment

CD5

Display (Sold separately)

FG Force Grip

FG100

CD5

Display (Sold separately)

Voltage Output **Grip**

- Grip style force sensor
- For large product testing
- Requires CD5 Compact Display

Model	Measurement Range [N]	Rated Output	Accuracy	Allowable Overload	Display (Option)	Weight [g]
FG40	±4-40	2mV/V	±1% F.S.	150%	CD42	580
FG100	±10-100					
FG200	±20-200					
FG400	±40-400					

Note
1. Display (CD5) is optional.
2. FG models are supplied upon request.

Standard Accessories Standard Attachment

CD5

Compact Display

CD5

Digital **Sensor Contacts** **Direct Reading** **Comparator** **Judgment**

- Digital display for Tohnichi's torque sensor (strain gauge) products
- Adapted the Black Mask LCD making 3 different colored displays
- OK or NG judgment capability with upper or lower limit setting function

Model
CD5

CD5 Optional Accessories

Printer

Model
EPP16M3

Data Filing System

Model	Media
DFS	CD-ROM

Connecting Cable (P.47)

Part #	Applicable Models
383	CD5 → PC, EPP16M3 (D-SUB 9 Pin Female)

CD5 Specifications

Display	Negative type liquid crystal
Resolution	±1/5000 (±1.0 to ±3.0mV/V) ±1/2000 (±0.5 to ±1.0mV/V) 1/2000 (+0.1 to +3.0mV/V)
Input Voltage	±3.0mV/V
Accuracy	Nonlinerity ±0.05% F.S. Zero point drift ±0.1μV/°C (TYP.) Gain drift ±0.01%/°C (TYP.)
Calibration Methods	Equivalent input calibration Calibration by actual weight Calibration using sensor-equipped torque wrench
Data Memory	1000 readings
External Input	RESET/COMP/CLEAR/CHSW
Communication	RS232C compliant, Analog output, HI. OK, LO relay output
Power	AC100-240V±10%
Temperature in Use	0 to 40 no condensation
Dimension	150W × 190D × 94H
Weight	Approx. 1.8 kg

R-DT999

Data Tank

R-DT999

Auxiliary **Infrared Input** **RS232C Data Output**

- Infrared data collector for torque equipment
- 999 data storage
- External keypad setup functions

Model
R-DT999

R-DT999 Optional Accessories

Printer

Model
EPP16M3

Data Filing System

Model	Media
DFS	CD-ROM

R-DT999 Specifications

Data Input	Infrared data input (Tohnichi format only)
Display	6 digits, 14segments LCD 4 digits, 7segments LCD 4 digits, 7segments LED
Applicable Models	CEM3-G, CEM2, ST, ST2, STC, CTA, CTB
Data Output	RS232C compliance, USB connector serial output (*USB 1.1)
Power	DC5V 2A
Dimensions	W80 × D125 × H32mm
Standard Accessories	AC adapter (100-240V±10%)
Operating Temperature Range	0-40 Celsius
Weight	205g (body only)

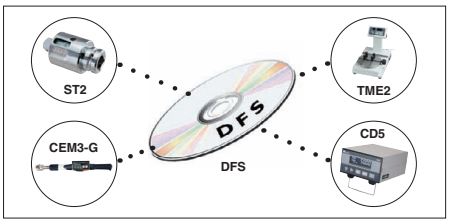
Connecting Cable (P.47)

Part #	Applicable Models	Plug
575	R-DT999 → PC, EPP16M3	D-SUB 9 Pin Female
584	R-DT999 → PC	USB A Type

Note Contact Tohnichi for other types of connector shapes.

DFS

Data Filing System (CD-ROM)



Maximum value, minimum value, data range, mean value, standard deviation and Cp value are calculated to make a histogram on the display.

Auxiliary **CD**

- Data processing software
- Statistics, Standard deviation, Cp values, Charts

Model	Media
DFS	CD-ROM

Connecting Cable to PC (P.47)

Part #	Applicable Models	Plug
575	CEM3-G, CTA2, CTB2-G, R-DT999 → PC, EPP16M3	D-SUB 9 Pin Female
584	CEM3-G, CTA2, CTB2-G, R-DT999 → PC	USB A Type
383	DOTE3-G, LC3-G, TME2, TDT3-G → PC, EPP16M3	D-SUB 9 Pin Female
384	ST3-G, ATGE-G, BTGE-G → PC	USB A Type

Note Contact Tohnichi for other types of connector shapes.

EPP16M3 Printer

Auxiliary | RS232C Data Input

- Printer for digital torque equipment
- Terminal Line Dot printing

EPP16M3

Model
EPP16M3

EPP16M3 Optional Accessories

Roll Paper

Part #	Description
1408	Roll Paper

EPP16M3 Specifications

Printed Mwthod	Thermal Line Dot
Total Dot	384 dots
Dots per inch	203 dpi (8dot/mm)
Printing Capacity	32
Number of Dots for Character	12 × 24
Character Size [mm]	1.5 × 3.0
Paper Width/Print Span [mm]	58 / 48
Thermal Paper Outer Diameter [mm]	φ50
Max Printing Speed [mm/sec]	80
Power AC [V]	100 - 240V ± 10% 50/60Hz
Temperature [°C]	0 ~ 40
Humidity [%RH]	Under 85 (No condensation)
Weight [kg]	Approx. 0.27

Connecting Cable

Part #	Applicable Models	Plug
383	DOTE3-G (P.54), LC3-G (P.56), TDT3-G (P.57), TME2 (P.60), CD5 (P.66)	D-SUB 9 Pin Female
575	CEM3-G/CEM3-P (P.36), CTA2 (P.24), R-DT999 (P.66), CTB2-G (P.37)	

DECA 10:1 Ratio Torque Multiplier

Auxiliary | Straight | Rotary | RoHS

- Multiplied torque output increases by 10 times
- Ideal for applying high torque values with less force

DECA900N

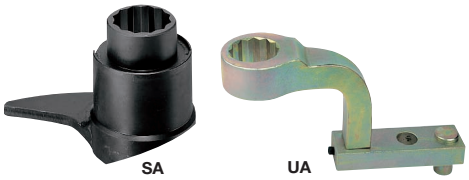
Accuracy ±5%

Model	Output Torque [N·m] Min.-Max.	Output Torque [kgf·m] Min.-Max.	Output Torque [lbf·ft] Min.-Max.	Torque Ratio	Dimension [mm] Overall Length	Dimension [mm] Dia.	Dimension [mm] Output Sq. Drive	Dimension [mm] Input Sq. Drive	Weight [kg]	Applicable Universal Arm
DECA450N	90-450	9-45	65-325		195	52	19.0	9.5	2	UA450N
DECA900N	180-900	18-90	130-650		541	63	25.4	12.7	3.4	UA900N
DECA1800N	360-1800	36-180	260-1300		270	78			5.7	UA1800N
DECA3000N	600-3000	60-300	434-2170	10:1	324	95	31.75	19.0	10	UA3000N
DECA4500N	900-4500	90-450	650-3250		367	110	38.1		12.5	UA4500N
DECA9000N	1800-9000	180-900	1300-6500		464	140	50.8	25.4	34	UA9000N
DECA18000N	3600-18000	360-1800	2600-13000		540	172	63.5		60	UA18000N

Note
1. Universal Arm is optional.
2. DECA9000N and DECA18000N are supplied upon request.

Standard Accessories
1. Metal Case (for DECA450N-DECA900N only)
2. Portable Handle (for DECA4500N-DECA9000N only)
3. Metal Case Caster (for DECA18000N only)

AP/DAP Optional Accessories



SA UA

SA Shell Arm Light weight reaction arm

RoHS

Model	Standard Socket Length [mm]	Max. Torque [N·m]
SA400N	50	400
SA700N	62	700
SA1200N	62	1200

UA Universal Arm Heavy duty reaction arm

RoHS

Model	Max. Torque [N·m]	Weight [kg]
UA450N	450	1.2
UA900N	900	2.6
UA1800N	1800	4
UA3000N	3000	7.2
UA4500N	4500	10.9
UA9000N	9000	18
UA18000N	18000	-

Adapter for Torque Wrench Tester

Down Adapter

Ratchet Adapter

DA Down Adapter for Torque Wrench Testers

RoHS

- Compact adapter to reduce the size of square drive

Model	Part #	Dimensions [mm] Square Drive (Male)	Dimensions [mm] Square Drive (Female)	Dimensions [mm] Height	Dimensions [mm] Outside Dia.	Capacity [N·m]	Weight [g]
DA3-2	296	9.5	6.35	12	13	14	5
DA4-3	297	12.7	9.5	15	18	70	11
DA6-4	298	19.0	12.7	19	28	220	34
DA8-6	299	25.4	19.0	26	35	750	66
DA12-8	300	38.1	25.4	44	55	2100	320

RA2 Ratchet Adapter for Torque Wrench Testers

RoHS

- Rotates wrench to proper testing position on tester (Gear action 3.75 degrees)

Model	Dimensions [mm] Sq. Drive (Male)	Dimensions [mm] Sq. Drive (Female)	Dimensions [mm] Height	Dimensions [mm] Outside Dia.	Capacity [N·m]	Weight [kg]
RA3mk2	9.5	9.5	37.3	55	70	0.28
RA4mk2	12.7	12.7	52.5	70	220	0.6
RA6mk2	19	19	69.3	115	850	2.3
RA8mk2	25.4	25.4	92.8	161	2100	6.3
RA12	38.1	38.1	111	234	3000	12.6

EVERTORQUE

Lubricant for repairing torque products

RoHS

- For repairs of torque wrenches and torque screwdrivers

Model	Part #
EVERTORQUE	830

Evertorque Application List

	Applicable Model	Applicable Part
Click Type Torque Wrench	QL/QLE/CLE/PQL/PCL/YCL	Thrustring; Steel Ball, Scale Piece, Adjusting Screw; Thread
	WQL	Thrustring; Steel Ball, Scale Piece, Adjusting Screw; Thread, Knob, Protector; Joint
	MPQL	Thrustring; Steel Ball, Scale Piece, Adjusting Screw; Thread, Ratchet, Marker Pipe; Joint
Click Type Torque Screwdriver	RTD, RNTD	Main Shaft, Toggle Sheet; Serration
	RTD, LTD, BMLD	Case, Adjusting Piece; Serration
Semi-Automatic Airtork	A/AC	Thrustring; Steel Ball, Scale Piece, Adjusting Screw; Thread
Fully-Automatic Airtork	AP, AS	Reduction Clutch; Clutch
Fully-Automatic Electric Nutrunner	DAP	
Multiple Unit	MC, ME, DCME	

Torque Settings for Torque Screwdrivers

■ LTD, RTD, MLD

Method of setting torque (Adjustable type):

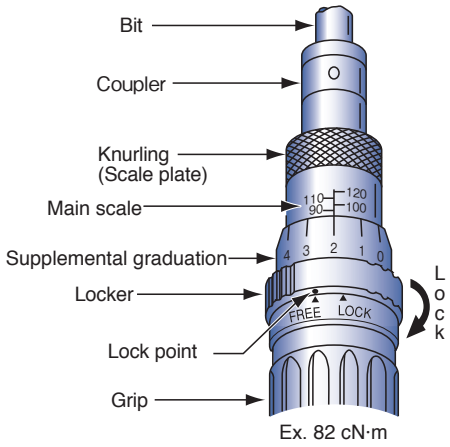
1. Turn the locker of the main unit clockwise to release the lock.
2. Holding the main scale knurling part with the fingers of your right hand, turn the grip with the fingers of your left hand to set the torque value.

* Setting the torque set values:

(1) Turn the grip to match the top end of the supplemental graduation with the main scale.

(2) Match the supplemental graduation line with the main scale vertical line (See the figure below).

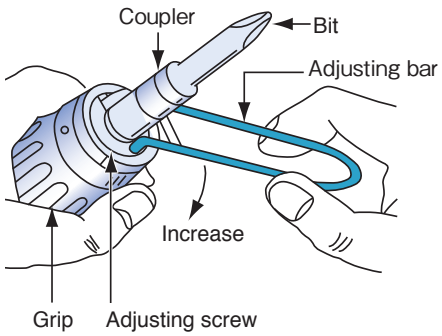
3. After setting the torque, turn the main unit locker counterclockwise to lock it.



■ NTD, RNTD

Method of setting torque (Preset type):

1. Holding the grip with your left hand, insert the adjusting tool bar into the grooves of the adjustment screw and turn to adjust. Turn clockwise to increase the torque value.
2. Insert with the exclusive bit into the loading device of the Torque Driver Tester (TDT) and fix it.
3. Turn the loading device clockwise to measure the torque value.
4. Continue to repeat procedures 1-3 until the torque is matched.



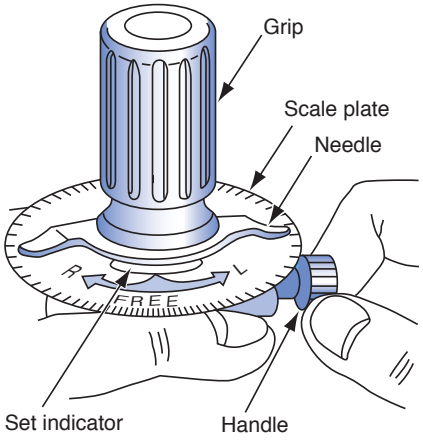
■ FTD50-400CN

Method of preloading the FTD

The preload function is a function that uses the handle to apply a preloading torque close to that of the measuring point to minimize the twisting angle during measurement.

In the FTD series torque screwdrivers, a preload function is provided to prevent your wrist from becoming strained and the torque scale from becoming difficult to read when operating close to the maximum torque.

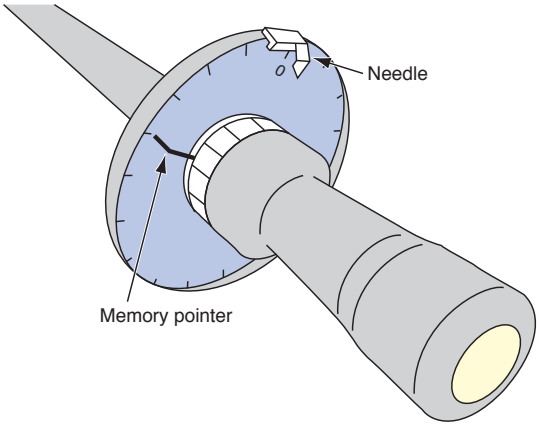
1. Holding the FTD screwdriver with your left hand, turn the preload handle in the counterclockwise direction using the fingers of your right hand (in case of clockwise measuring).
2. After some slipping turns, the needle will begin to move, and it will be easy to set an optional torque value.
3. If you do not wish to use the preload function, turn the preload handle until there is no tension and the central set indicator (red mark) points to the FREE mark.



■ FTD-S

Method of setting the FTD-S indicator and memory pointer

1. Make sure the indicator is pointing to zero by matching the scale. If not, adjust to zero by lightly pushing down on the scale and rotating it.
2. Turn the memory pointer in the direction opposite to the measuring direction until it matches the main indicator.
3. Carry out torque measurement or torque tightening.

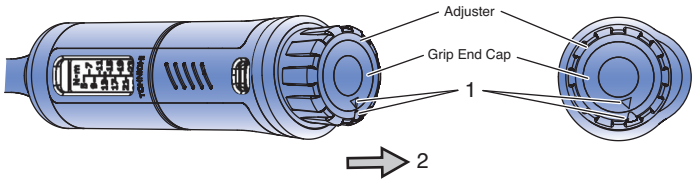


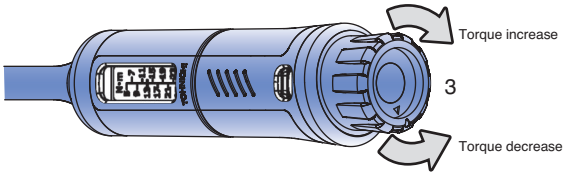
Torque Settings for Torque Wrenches

■ Adjustable type

● QL, QL5/CL, CL5

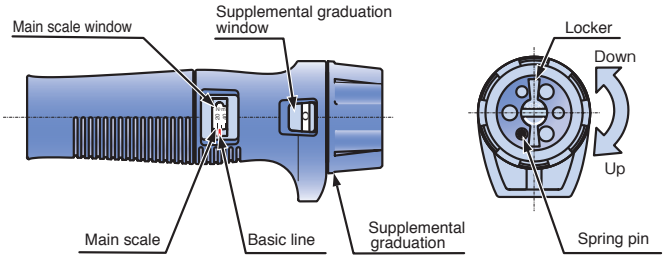
1. Turn the adjuster and match up the ▲mark of the adjuster and ▼mark of grip-end cap.
2. Pull the adjuster.
3. Pull the adjuster and turn it to set a torque.





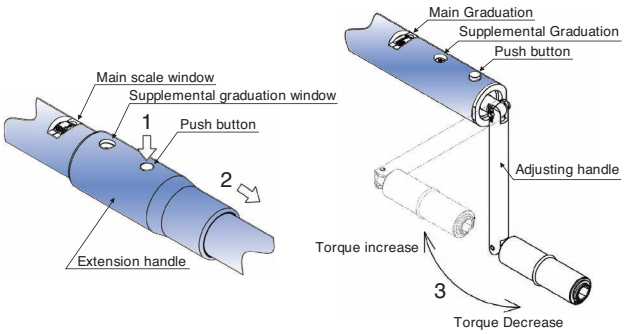
● QL, CL, YCL, A, etc.

1. Release the locker (Turn it counterclockwise).
2. Set the torque by turning the supplemental graduation, confirming the value of the main scale.
3. Turn the locker clockwise to lock it. (Change the locker pin location if the pin is contacted when locking.)



● QLE2, CLE2, DQLE2, and PHLE2

1. Press the push button
2. Remove the extension handle
3. Turning the adjusting handle clockwise to increase the set torque and counterclockwise to reduce it.

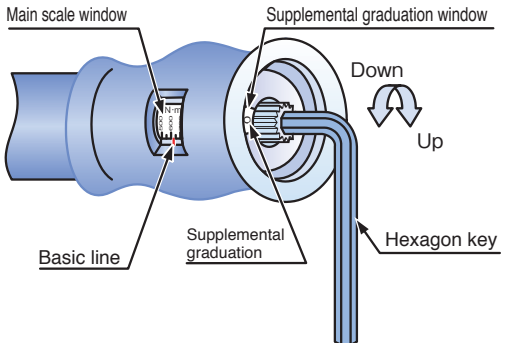


■ Pre-lock and preset types

● PQL, PCL, AC2, QSP3, etc.

1. Insert the provided hexagon key into the adjusting hexagonal hole.
2. Turn the hexagon key to set the torque, confirming the value on the main scale and supplemental graduation.
3. No locking mechanism is needed for PQL models (An adjusting tool for QSP3 is optional).

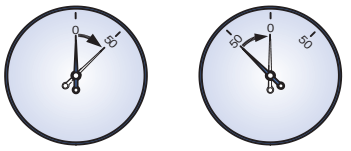
Model	Adjusting hexagon hole mm size across flats
PQL6N4-PQL25N	2.5
PQL50N-200N4	4
AC25N2-100N2	

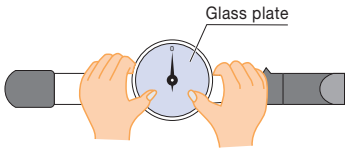


■ Dial Indication types

● DB, CDB, T

1. For measurement
   The scale on the dial gauge can be rotated. Press the dial case from above and turn the pointer to correctly match “0”.
2. Presetting exclusively for tightening
   Alternatively, the desired torque can be preset on the dial beforehand and then the bolt can be tightened until the pointer shows “0”.





Torque Conversion List

kgf·cm \ N·m	0	1	2	3	4	5	6	7	8	9
10	0.981	1.08	1.18	1.27	1.37	1.47	1.57	1.67	1.77	1.86
20	1.96	2.06	2.16	2.26	2.35	2.45	2.55	2.65	2.75	2.84
30	2.94	3.04	3.14	3.24	3.33	3.43	3.53	3.63	3.73	3.82
40	3.92	4.02	4.12	4.22	4.31	4.41	4.51	4.61	4.71	4.81
50	4.90	5.00	5.10	5.20	5.30	5.39	5.49	5.59	5.69	5.79
60	5.88	5.98	6.08	6.18	6.28	6.37	6.47	6.57	6.67	6.77
70	6.86	6.96	7.06	7.16	7.26	7.35	7.45	7.55	7.65	7.75
80	7.85	7.94	8.04	8.14	8.24	8.34	8.43	8.53	8.63	8.73
90	8.83	8.92	9.02	9.12	9.22	9.32	9.41	9.51	9.61	9.71
100	9.81	9.90	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7

N·m \ kgf·cm	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
1	10.2	11.2	12.2	13.3	14.3	15.3	16.3	17.3	18.4	19.4
2	20.4	21.4	22.4	23.5	24.5	25.5	26.5	27.5	28.6	29.6
3	30.6	31.6	32.6	33.7	34.7	35.7	36.7	37.7	38.7	39.8
4	40.8	41.8	42.8	43.8	44.9	45.9	46.9	47.9	48.9	50.0
5	51.0	52.0	53.0	54.0	55.1	56.1	57.1	58.1	59.1	60.2
6	61.2	62.2	63.2	64.2	65.3	66.3	67.3	68.3	69.3	70.4
7	71.4	72.4	73.4	74.4	75.5	76.5	77.5	78.5	79.5	80.6
8	81.6	82.6	83.6	84.6	85.7	86.7	87.7	88.7	89.7	90.8
9	91.8	92.8	93.8	94.8	95.9	96.9	97.9	98.9	99.9	101
10	102	103	104	105	106	107	108	109	110	111

kgf·cm \ N·m	0	10	20	30	40	50	60	70	80	90
100	9.81	10.8	11.8	12.7	13.7	14.7	15.7	16.7	17.7	18.6
200	19.6	20.6	21.6	22.6	23.5	24.5	25.5	26.5	27.5	28.4
300	29.4	30.4	31.4	32.4	33.3	34.3	35.3	36.3	37.3	38.2
400	39.2	40.2	41.2	42.2	43.1	44.1	45.1	46.1	47.1	48.1
500	49.0	50.0	51.0	52.0	53.0	53.9	54.9	55.9	56.9	57.9
600	58.8	59.8	60.8	61.8	62.8	63.7	64.7	65.7	66.7	67.7
700	68.6	69.6	70.6	71.6	72.6	73.5	74.5	75.5	76.5	77.5
800	78.5	79.4	80.4	81.4	82.4	83.4	84.3	85.3	86.3	87.3
900	88.3	89.2	90.2	91.2	92.2	93.2	94.1	95.1	96.1	97.1
1000	98.1	99.0	100	101	102	103	104	105	106	107

N·m \ kgf·m	0	1	2	3	4	5	6	7	8	9
10	1.02	1.12	1.22	1.33	1.43	1.53	1.63	1.73	1.84	1.94
20	2.04	2.14	2.24	2.35	2.45	2.55	2.65	2.75	2.86	2.96
30	3.06	3.16	3.26	3.37	3.47	3.57	3.67	3.77	3.87	3.98
40	4.08	4.18	4.28	4.38	4.49	4.59	4.69	4.79	4.89	5.00
50	5.10	5.20	5.30	5.40	5.51	5.61	5.71	5.81	5.91	6.02
60	6.12	6.22	6.32	6.42	6.53	6.63	6.73	6.83	6.93	7.04
70	7.14	7.24	7.34	7.44	7.55	7.65	7.75	7.85	7.95	8.06
80	8.16	8.26	8.36	8.46	8.57	8.67	8.77	8.87	8.97	9.08
90	9.18	9.28	9.38	9.48	9.59	9.69	9.79	9.89	9.99	10.1
100	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1

kgf·m \ N·m	0	1	2	3	4	5	6	7	8	9
10	98.1	108	118	127	137	147	157	167	177	186
20	196	206	216	226	235	245	255	265	275	284
30	294	304	314	324	333	343	353	363	373	382
40	392	402	412	422	431	441	451	461	471	481
50	490	500	510	520	530	539	549	559	569	579
60	588	598	608	618	628	637	647	657	667	677
70	686	696	706	716	726	735	745	755	765	775
80	785	794	804	814	824	834	843	853	863	873
90	883	892	902	912	922	932	941	951	961	971
100	981	990	1000	1010	1020	1030	1040	1050	1060	1070

N·m \ kgf·m	0	10	20	30	40	50	60	70	80	90
100	10.2	11.2	12.2	13.3	14.3	15.3	16.3	17.3	18.4	19.4
200	20.4	21.4	22.4	23.5	24.5	25.5	26.5	27.5	28.6	29.6
300	30.6	31.6	32.6	33.7	34.7	35.7	36.7	37.7	38.7	39.8
400	40.8	41.8	42.8	43.8	44.9	45.9	46.9	47.9	48.9	50.0
500	51.0	52.0	53.0	54.0	55.1	56.1	57.1	58.1	59.1	60.2
600	61.2	62.2	63.2	64.2	65.3	66.3	67.3	68.3	69.3	70.4
700	71.4	72.4	73.4	74.4	75.5	76.5	77.5	78.5	79.5	80.6
800	81.6	82.6	83.6	84.6	85.7	86.7	87.7	88.7	89.7	90.8
900	91.8	92.8	93.8	94.8	95.9	96.9	97.9	98.9	99.9	101
1000	102	103	104	105	106	107	108	109	110	111

■ Unit of Torque and Conversion Values

	S.I. unit system			Metric unit system			American unit system		
	mN·m	cN·m	N·m	gf·cm	kgf·cm	kgf·m	ozf·in	lbf·in	lbf·ft
1 mN·m =	1	0.10	0.001	10.2	0.0102	0.000102	0.142	0.00885	0.000738
1 cN·m =	10	1	0.01	102	0.102	0.00102	1.42	0.0885	0.00738
1 N·m =	1000	100	1	10200	10.2	0.102	142	8.85	0.738
1 gf·cm =	0.0981	0.00981	0.0000981	1	0.001	0.00001	0.0139	0.000868	0.0000723
1 kgf·cm =	98.1	9.81	0.0981	1000	1	0.01	13.9	0.868	0.0723
1 kgf·m =	9810	981	9.81	100000	100	1	1390	86.8	7.23
1 ozf·in =	7.06	0.706	0.00706	72.0	0.072	0.00072	1	0.0625	0.00521
1 lbf·in =	113	11.3	0.113	1150	1.15	0.0115	16	1	0.0833
1 lbf·ft =	1360	136	1.36	13800	13.8	0.138	192	12	1
Country/Region	Japan, China, Europe			Asia			U.S.A., Aircraft industry		

1 [N·m] = 10.1972 [kgf·cm] ≈ 10.20 [kgf·cm] 1 [kgf·cm] = 0.0980665 [N·m] ≈ 0.0981 [N·m]

Conversion example: T = 25·0 [kgf·cm] = 25.0 × 0.0980665 = 2.4516625 [N·m] ≈ 2.45 [N·m]

JCSS (Japan Calibration Service System)

Tohnichi Mfg. Co. Ltd's torque standards calibration laboratory is now an authorized calibration service provider of JCSS (Japan Calibration Service System) under Japanese measurement law. (Registration number: JCSS0281) Based on this, Tohnichi has launched a JCSS calibration service for DOTE3-G torque wrench testers from 10 N·m to 1000 N·m as a validated JCSS system and an uncertainty certificate service for outside of the above stated torque range. Tohnichi issued JCSS calibration certificate is recognized internationally based on mutual recognition arrangement (MRA) of ILAC (International Laboratory Accreditation Cooperation) and APLAC (Asia Pacific Laboratory Accreditation Cooperation) by IAJapan.

Standard Tightening Torque

Standard tightening torque [N·m] (Reference value)

Nominal diameter	T [N·m]	0.5T series [N·m]	1.8T series [N·m]	2.4T series [N·m]
M1	0.0195	0.0098	0.035	0.047
(M1.1)	0.027	0.0135	0.049	0.065
M1.2	0.037	0.0185	0.066	0.088
(M1.4)	0.058	0.029	0.104	0.140
M1.6	0.086	0.043	0.156	0.206
(M1.8)	0.128	0.064	0.23	0.305
M2	0.176	0.088	0.315	0.42
(M2.2)	0.23	0.116	0.41	0.55
M2.5	0.36	0.18	0.65	0.86
M3	0.63	0.315	1.14	1.50
(M3.5)	1	0.5	1.8	2.40
M4	1.5	0.75	2.7	3.6
(M4.5)	2.15	1.08	3.9	5.2
M5	3	1.5	5.4	7.2
M6	5.2	2.6	9.2	12.2
(M7)	8.4	4.2	15	20.0
M8	12.5	6.2	22	29.5
M10	24.5	12.5	44	59
M12	42	21	76	100
(M14)	68	34	122	166
M16	106	53	190	255
M18	146	73	270	350
M20	204	102	370	490
(M22)	282	140	500	670
M24	360	180	650	860
(M27)	520	260	940	1240
M30	700	350	1260	1700
(M33)	960	480	1750	2300
M36	1240	620	2250	3000
(M39)	1600	800	2900	3800
M42	2000	1000	3600	4800
(M45)	2500	1260	4500	6000
M48	2950	1500	5300	7000
(M52)	3800	1900	6800	9200
M56	4800	2400	8600	11600
(M60)	5900	2950	10600	14000
M64	7200	3600	13000	17500
(M68)	8800	4400	16000	21000

Standard bolt stress: 210 [N/mm^2] Stress area of bolt (JIS B 1082)

Standard tightening torque [kgf·cm] (Reference value)

Nominal diameter	T [kgf·cm]	0.5T series [kgf·cm]	1.8T series [kgf·cm]	2.4T series [kgf·cm]
M1	0.199	0.100	0.357	0.479
(M1.1)	0.275	0.138	0.500	0.663
M1.2	0.377	0.189	0.673	0.897
(M1.4)	0.591	0.296	1.06	1.43
M1.6	0.877	0.438	1.59	2.10
(M1.8)	1.31	0.653	2.35	3.11
M2	1.79	0.897	3.21	4.28
(M2.2)	2.35	1.17	4.18	5.61
M2.5	3.67	1.84	6.63	8.77
M3	6.42	3.21	11.6	15.3
(M3.5)	10.2	5.1	18.4	24.5
M4	15.3	7.6	27.5	36.7
(M4.5)	21.9	11.0	39.8	53.0
M5	29.4	14.7	53.0	70.6
M6	53.0	26.5	93.8	124
(M7)	85.7	42.8	153	204
M8	127	63.2	224	301
M10	250	127	449	602
M12	428	214	775	1020
(M14)	693	347	1240	1690
M16	1080	540	1940	2600
M18	1490	744	2750	3570
M20	2080	1040	3770	5000
(M22)	2880	1430	5100	6830
M24	3670	1840	6630	8770
(M27)	5300	2650	9590	12600
M30	7140	3570	12800	17300
(M33)	9790	4890	17800	23500
M36	12600	6320	22900	30600
(M39)	16300	8160	29600	38700
M42	20400	10200	36700	48900
(M45)	25500	12800	45900	61200
M48	30100	15300	54000	71400
(M52)	38700	19400	69300	93800
M56	48900	24500	87700	118000
(M60)	60200	30100	108000	143000
M64	73400	36700	133000	178000
(M68)	89700	44900	163000	214000

Note: Conversion values rolled up to effective 3-digits.

■ Screws and Applicable "T" Series

	Standard T series	0.5T series	1.8T series	2.4T series
Applicable screws (Strengths) (Material)	4.6-6.8 SS, SC, SUS	- Brass, Copper, Aluminum	8.8-12.9 SCr, SNC, SCM	10.9-12.9 SCr, SNC, SCM, SNCM
Axial tension standard value [N/mm^2] Min - Max	210 300-160	105 150-80	380 540-290	500 710-380
Application	To be applied to ordinary screws, unless otherwise specified	Male and female screws with copper, aluminum or plastic, for die-cast plastic products	Durable screw joints made of special steel including those affected by additional dynamic loads (Friction clamping)	
Applicable products	Ordinary products	Electronic products	Vehicles, Engines	Construction products

* The maximum to the minimum of the axial stress is considered as the dispersion of the torque coefficient.
Example: max = 210 × (0.2/0.14) = 300 [N/mm^2]
Torque coefficient: 0.14 (minimum) - 0.2 (average) - 0.26 (maximum)

Calibration Certificate

- Torque wrenches are measuring instruments. The calibration certificate is the document which certifies the accuracy of the torque products, which are traceable to Japanese national standards. Please keep the calibration certificate for future use.
- Accuracy % is calculated on each indicated value. Accuracy stated as "+/- a percentage + 1 digit" indicates that digital display will round up to next digit in resolution if value falls between digits.
- Tohnichi's torque products provided with a calibration certificate can be used immediately at ISO9000 facilities without the need for further acceptance inspection or any additional certifications.
- The calibration certificate is effective for 1 year from the date of first use within 3 years from the date of inspection. Please fill in the date in the calibration certificate when first used.
- Tohnichi's manual torque tools are normally guaranteed to 100,000 tightening cycles or 1 year. For click type torque wrenches, it can be also used up to 1,000,000 tightening cycles if the function is properly maintained and adjusted at every 100,000 cycles.

Restriction of Hazardous Substances Directive (RoHS)

Following RoHS, which restricts the use of certain hazardous materials in product manufacturing, Tohnichi has expanded its efforts in environmentally friendly procurement. Starting with our Product Catalog 2011 edition, the RoHS mark is shown on all applicable models conforming to the RoHS directive. For details, please contact Tohnichi.

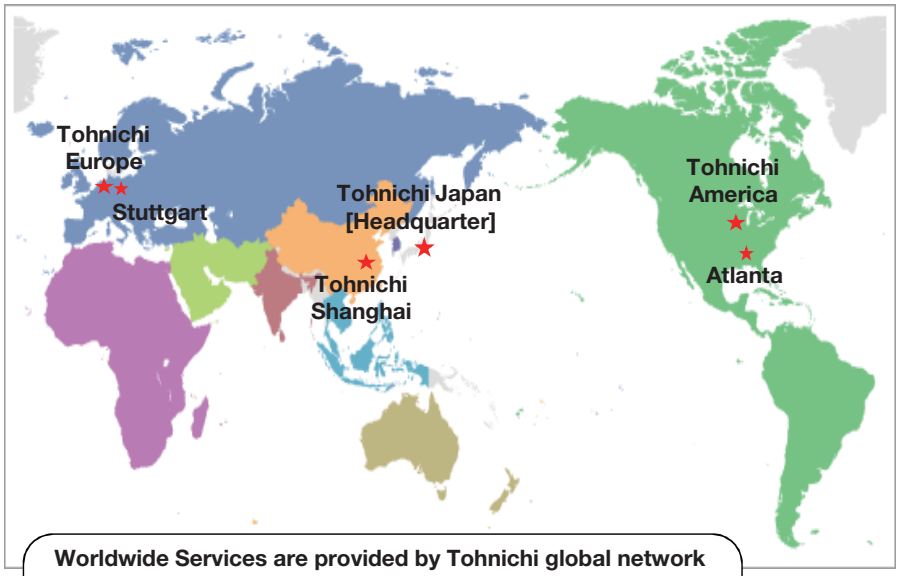
Tohnichi's Worldwide Services System

Torque equipment must have durability, ease-of-use, and even more importantly, high accuracy.
To insure high accuracy, torque products should be properly used and maintained throughout the lifetime of the equipment.
Tohnichi has created an international service network to provide customers with a variety of after sales services.

1. Tohnichi's International Service Network

As a world leading torque equipment brand, Tohnichi has developed sales and service agents.
Our agencies operate in 50 countries or regions through hundreds of dealers supplying products and also repair services to customers around a world.

[Tohnichi Web Homepage]
http://tohnichi.jp/english/index.html

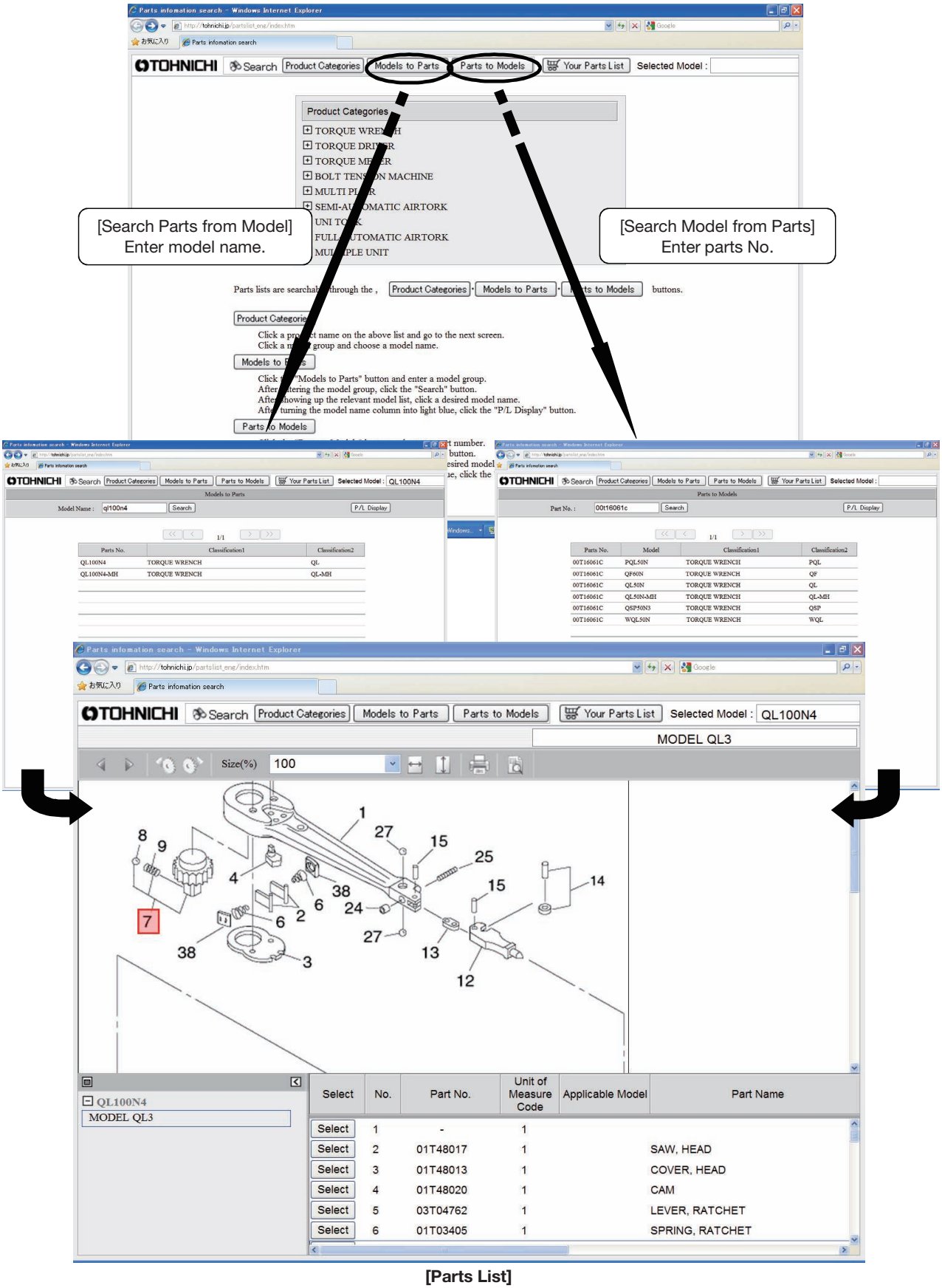


Worldwide Services are provided by Tohnichi global network
[Tohnichi Japan] Regions of Asia, Oceania, and Middle east
[Tohnichi Shanghai] China
[Tohnichi America] Regions of North and South America, Canada
[Tohnichi Europe] Regions of Europe, Russia, and Africa

2. Tohnichi Web Parts List/Parts Supplies

Detailed parts information is available through Tohnichi's website.
Search by Model or Part name.
View detailed tool diagrams: click and select parts to create a convenient list for parts ordering (Your Parts List).

[Parts List Top Page]



[Parts List]

Your Torque Partner

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Designs and specifications are subject to change without notice.

TUD TOHNICHI UNIFIED DESIGN

The TUD symbol indicates that our products are ergonomically designed and adapted for Color Vision Deficiencies.

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