

# CEM3-G

DATA TORK/  
Digital Torque  
Wrench

- Inspection
- Digital
- Interchangeable
- Direct Reading
- Re-Chargeable
- ISO6789:2003

Direction



RoHS



CEM100N3x15D-G



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



CEM20N3x10D-G



CEM850N3x32D-G

Accuracy ±1%

## 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	RS232C (2400-19200bps)
Functions	Serial output corresponding to a USB connector
Power Supply	Ni-MH rechargeable battery
Continuous Use	20 hrs with fully charged (8 hours by 1 hour recharging)
Recharging Time	3.5 hours
Operating Temperature	0-40 °C
Basic Functions	Peak Hold, Auto memory & resetting, Tightening completion buzzer, Judgment of measured data, Auto zero setting, Auto off (3 minutes), Clock

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			
CEM10N3x8D-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
CEM20N3x10D-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
CEM50N3x12D-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
CEM100N3x15D-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
CEM200N3x19D-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
CEM360N3x22D-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
CEM500N3x22D-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
CEM850N3x32D-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 45-48.
  3. For infrared data transfer, use with R-DT999. Refer to page 70.
  4. PH Pipe wrench head type interchangeable head is not available for this model.
  5. CEM500N3x22D-G and CEM850N3x32D-G have knurled handles.
  6. For USB data transfer, use optional connecting cable, No.584. Refer to page 50.

- Standard Accessories**
1. Battery pack/BP-5
  2. QH interchangeable head. Refer to page 47.
  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.

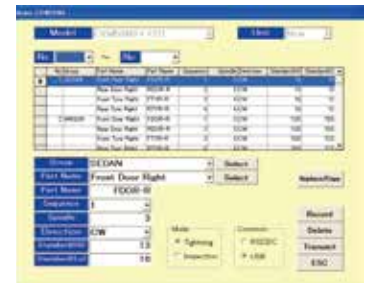
Torque Accuracy	±1%
Portion Registration Memory	Max. 100 parts (Part name, number of screws, tightening direction, high/low torque, measuring order)
Measurement Data Storage	Up to 3,000 screw data (vary depending on parts registered), measurement part name, measured value, pass/fail judgment, measurement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



CEM50N3x12D-P



Display part  
Left: Part name, Right: Torque value



CEM3-P application software

Model
CEM10N3x8D-P
CEM20N3x10D-P
CEM50N3x12D-P

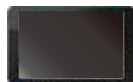
Model
CEM100N3x15D-P
CEM200N3x19D-P
CEM360N3x22D-P

Model
CEM500N3x22D-P
CEM850N3x32D-P

## Handy Terminal

Compact data collection device for CEM3-G

- Upload & download torque measuring information
- Guides user through torque assembly & quality inspection processes
- Statistics and charting capabilities
- Contact Tohnichi for lithium battery shipping specifications.



### Battery Pack (P.50)

Model
BP-5

### Quick Battery Charger (P.50)

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

### Printer (P.69)

Model
EPP16M3

### Connecting Cable (P.50)

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

### Data Filing System (P.69)

Model	Media
DFS	CD-ROM

# CTB2-G Digital Retightening Torque Wrench

Direction



RoHS



CTB100N2×15D-G



CTB850N2×32D-G

Inspection Digital Interchangeable Signal Re-Chargeable ISO6789:2003

- Detects movement of fastener for more accurate testing
- For quality inspection applications, confirms previously tightened torque values.

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 45-48.
  3. For infrared data transfer, use with R-DT999. Refer to page 69.
  4. PH type interchangeable head is not available for this model.

- Standard Accessories**
1. Battery pack/BP-5
  2. QH interchangeable head (P.47).
  3. Quick battery charger/BC-3-G, 100-240V

## 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	20 hours (8 hours by 1 hour charging)
Battery Charge	3.5 hours
Operating Temperature	0-40 °C

## Battery Pack (P.50)

Model
BP-5

## Printer (P.69)

Model
EPP16M3

## Quick Battery Charger (P.50)

Model	Description
BC-3-G	100-240V

## Connecting Cable (P.50)

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

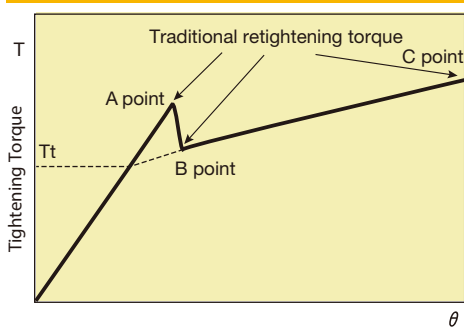
## Data Filing System (P.69)

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

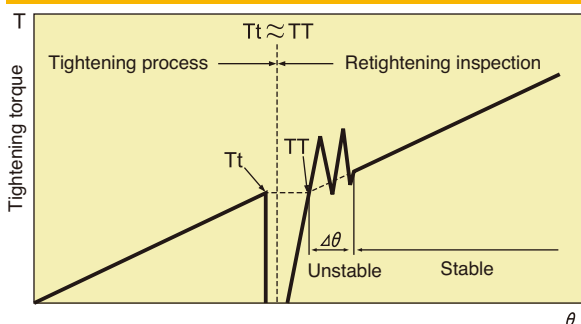
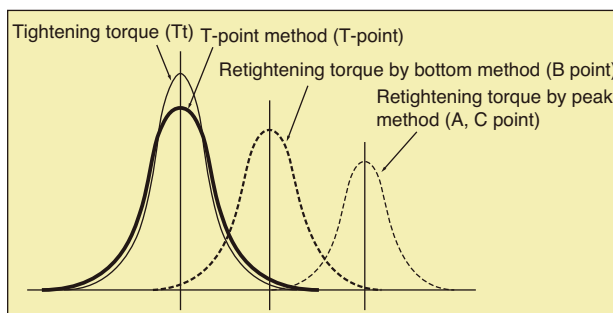


Figure-3 Distribution of retightening torque



Refer to Tohnichi Torque Handbook Vol. 9 on page 46 to 47 for the details.



# DB/DBE/DBR

**Direction** Dial Indicating Torque Wrench



RoHS



DB12N4



DB100N



DBE700N



Memory Pointer, Red color point

## DB Optional Accessories



846

### Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]	Weight [kg]
846	DB100N-S, CDB100N×15D-S or less H170 × W500 × D100	1.0
847	DB280N5-S, CDB280N5×22D-S or less H170 × W740 × D100	1.6

Inspection Dial Indicating Direct Reading ISO6789:2003  
2017

- 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]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
DB1.5N4-S	0.2-1.5	0.02	15DB4-S	2-15	0.2	DB131-2AS	0-13	0.2			
DB3N4-S	0.3-3	0.05	30DB4-S	3-30	0.5	DB261-2AS	0-26		205	6.35	0.4
DB6N5-S	0.7-6	0.1	DB60M5-S	7-60	1	DB401-2AS	0-40	0.5			
DB12N5-S	1.4-12	0.2	DB120M5-S	14-120	2	DB751-2AS	0-75	1			
DB25N5-1/4-S	3.5-25	0.5	DB250M5-1/4-S	35-250	5	DB1501-2AS	0-150	2	245		
DB25N5-S			DB250M5-S			DB1501-3AS					
DB50N-S	5-50		DB500M-S	50-500		DB3001-3AS	0-300	5			0.6
						DB25F-3AS	0-25	0.5	320	9.5	
						DB6001-3AS	0-600	10			
DB100N-3/8-S			DB100M-3/8-S				lbf·in	lbf·in			
						DB50F-3AS	0-50	0.5			
	10-100	1		100-1000	10		lbf·in	lbf·in	400		0.7
DB100N-S			DB100M-S				0-600	10			
						DB50F-4AS	0-50	0.5			
DB200N-S	20-200	2	DB2000M-S	200-2000	20	DB100F-4AS	0-100	1	500	12.7	
				kgf·m	kgf·m						1.0
						DB175F-4AS	0-175	2	580		
DB280N5-1/2-S	35-280	5	DB2800M5-1/2-S	3.5-28	0.5				690		1.65
DB280N5-S			DB2800M5-S			DB250F-6AS	0-250	5			
DB420N-S	40-420		DB4200M-S	4-42		DB350F-6AS	0-350		890		2.5
DBE560N-S	50-560		DBE5600M-S	5-56					1100	19.0	4.0
DBE700N-S	70-700		DBE7000M-S	7-70		DB500F-6AS	0-500	10	1260		5.5
DBE850N-S	100-850	10	DBE8500M-S	10-85	1				1360		6.1
DBE1000N-S	100-1000		DBE10000M-S	10-100		DB800F-8AS	0-800		1490		6.4
DBE1400N-S	200-1400	20	DBE14000M-S	20-140	2	DB1000F-8AS	0-1000	10	1740	25.4	8.6
DBE2100N-S	200-2100		DBE21000M-S	20-210		DB1500F-8AS	0-1500	20	2140	12.8	
DBE2800N5-S	350-2800	50	DBE28000M5-S	35-280		DB2000F-12AS	0-2000		2380		16.8
											38.1
DBR4500N-S	0.5-4.5	0.05	45000DBR-S	50-450	5	DB3000F-12AS	0-3000	50	1285		26.5
DBR6000N-S	0.6-6	0.1	60000DBR-S	60-600					1585	44.5	27.5

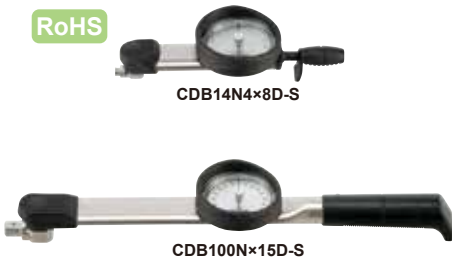
**Note**

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.
6. DB1.5N4, DB3N4 and the equivalent metric models, American unit models come with ISO6789-2003 certificate.

# CDB-S

Interchangeable Head Type Dial Indicating Torque Wrench

Direction



Inspection | Dial Indicating | Interchangeable | Memory Pointer | ISO6789:2003/2017

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

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
8D	CDB7N4x8D-S	0.7-7	0.1	CDB70Mx8D-S	7-70	1	70CDB4-A-S	6-60	1	215	0.45
	CDB14N4x8D-S	2-14	0.2	CDB140Mx8D-S	20-140	2	140CDB4-A-S	20-120	2		
10D	CDB25N5x10D-S	3.5-25	0.5	CDB250M5x8D-S	35-250	5	250CDB-A-S	30-220	5	255	0.48
12D	CDB50Nx12D-S	5-50		CDB500Mx12D-S	50-500		500CDB-A-S	40-430		330	0.53
15D	CDB100Nx15D-S	10-100	1	CDB1000Mx15D-S	100-1000	10	1000CDB-A-S	7-70	1	415	0.76
	19D	CDB200Nx19D-S	20-200	2	CDB2000Mx19D-S	200-2000	20	2000CDB-A-S	14-140	2	525
22D	CDB300N5x22D-S	35-300	5	CDB300M5x22D-S	3.5-30	0.5	3000CDB-A-S	20-220	5	720	1.65
	CDB420Nx22D-S	40-420		CDB4200Mx22D-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.
  3. Interchangeable heads are optional.
  4. American models come with ISO:6789-2003 certificate.

# SCDB-S

European Style Interchangeable Head Type Dial Indicating Torque Wrench

Direction



Inspection | Dial Indicating | Interchangeable | Memory Pointer | ISO6789:2017

- Specialized version of DB
- Accepts DIN interchangeable head connection

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Head Size [mm]	Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.			
SCDB25N5-9x12-S	3.5-25	0.5	9x12	271	0.48
SCDB50N-9x12-S	5-50		9x12	342	0.53
SCDB100N-9x12-S	10-100	1	9x12	422	0.76
SCDB200N-14x18-S	20-200	2	14x18	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 SCDB-S.

# T-S

T-Handle Dial Indicating Torque Wrench

Direction



Inspection | Dial Indicating | Direct Reading | Memory Pointer | ISO6789:2003/2017

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

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]		Overall Length [mm]	Neck Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				
T23N2-S	3.5-23	0.5	T230M2-S	35-230	5	T200I-3AS	20-200	2	205	71	9.5	0.41
T45N-S	5-45		T450M-S	50-450		T400I-3AS	50-400	5	261	82		0.53
T90N-S	10-90	1	T900M-S	100-900	10	T65F-4AS	10-65	1	376	102.5	12.7	0.8
T180N-S	20-180	2	T1800M-S	200-1800	20	T130F-4AS	20-130	2	656	118.5		1.2
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	2500	10			
T2800N-S	300-2800	50	28000T-S	30-280	5	28000T-A-S	200-2000	20	2960		38.1	15.5
T4200N-S	400-4200		42000T-S	40-420		42000T-A-S	400-3000		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.
  3. American models come with ISO:6789-2003 certificate.

Torque Wrench for Quality Inspection



# SF/F/FR

Beam Type Torque Wrench

Direction



RoHS



SF6N



F92N

Inspection Beam Direct Reading ISO6789:2003

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

Accuracy ±3%

S.I. Model	Torque Range [cN·m/N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
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
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		120SF	20-120		120SF-A	0-100		235		0.25
F23N	3-23	0.5	230F	30-230	5	230F-A	0-200	5	295	9.5	0.4
F46N	5-46	1	460F	50-460	10	460F-A	0-400	10	355		0.6
F92N	10-92		920F	100-920		920F-A	10-66		400		0.95
F130N	20-130	2	1300F	200-1300	20	1300F-A	10-95	2	445	12.7	1.2
F190N	30-190		1900F	300-1900	50	1900F-A	25-135		490		1.5
F280N	50-280		2800F	5-28	0.5	2800F-A	30-200	5	565		2.2
F420N	70-420		4200F	7-42		4200F-A	30-300		825	19.0	3.5
F560N	100-560	10	5600F	10-56	1	5600F-A	50-400	10	945		4.0
F700N	100-700		7000F	10-70		7000F-A	50-500		1175		6.0
F850N	100-850		8500F	10-85		8500F-A	60-600		1410		7.8
F1000N	100-1000		10000F	10-100		10000F-A	70-700		1640		8.8
FR1050N	100-1050	20	10500FR	10-105	2	10500FR-A	100-750	20	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	100	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



RoHS



CSF7N×8D



CF25N×10D

Inspection Beam Interchangeable Direct Reading ISO6789:2003

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

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
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
	CF25N×10D	5-25	1	250CF	50-250	10	250CF-A	40-220	10	320	0.4
12D	CF50N×12D	10-50		500CF	100-500		500CF-A	80-420	20	380	0.6
15D	CF100N×15D	10-100		1000CF	100-1000		1000CF-A	6-70		435	1.0
	CF150N×19D	20-150		1500CF	200-1500	50	1500CF-A	15-110		480	1.3
22D	CF230N×22D	30-230	5	2300CF	3-23	0.5	2300CF-A	20-160	5	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. PH (Pipe wrench head) type interchangeable head is not available.
  3. Interchangeable heads are optional.

# QF/QFR

Ratchet Head Beam Type Torque Wrench

Direction



RoHS



QF120N

Inspection Beam Ratchet Head Direct Reading ISO6789:2003

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

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]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
QF60N	6-60	1	600QF	60-600	10	600QF-A	0-520	10	455	9.5	0.8
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
QF320N	60-320		3200QF	6-32		3200QF-A	40-230	5	655		2.6
QF420N	70-420		4200QF	7-42		4200QF-A	30-300		825		3.4
QF560N	100-560	10	5600QF	10-56	1	5600QF-A	50-400		950	19.0	4.3
QF700N	100-700		7000QF	10-70		7000QF-A	50-500	10	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	25.4	8.5
QFR1400N	200-1400		14000QFR	20-140		14000QFR-A	100-1000		992		12.5
QFR2100N	300-2100	50	21000QFR	30-210	5	21000QFR-A	200-1500	50	1158		15.5
QFR2800N	300-2800		28000QFR	30-280		28000QFR-A	200-2000		1305		21
QFR4200N	400-4200	100	42000QFR	40-420	10	42000QFR-A	300-3000	100	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.