

Error Proofing (Pokayoke) System

Torque Wrench for Assembly

LS
(Wired)

Examples) QL/QLE (P.10), CL/CLE (P.11), TiQL/TiQLE (P.13), PQL (P.14), QRSP (P.14), PCL (P.15), QSP (P.16), CSP (P.17), SP/SP-MH/RSP (P.18), SP-N/SP-N-MH (P.19), AUR (P.40), A/AC (P.42)



Wired →



Control the number of tightening to eliminate missed tightening

Wired ↑

FH
(Wireless)



Modified to...



Wireless →



Examples) FH transmitter (P.25) mounted on torque wrench such as QL
Equipped with FH functions such as HATFH (P.40)

Marking



Visually check the bolt marked to recognize torque tightening completion

MPQL/MQL

Direction Marking Torque Wrench



Marked bolts

Assembly **Pre-Lock** **Ratchet Head** **Graduation** **Quick Drying Ink**

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

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]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
MPQL50N	10-50	0.5	450MPQL	kgf·cm 100-500	kgf·m 5	450MPQL-A	lbf·in 100-400	lbf·ft 5	0.7	274
MPQL100N4	20-100	1	900MPQL4	200-1000	10	900MPQL4-A	15-75	lbf·ft	0.95	388
MPQL140N	30-140		1400MPQL	400-1400		1400MPQL-A	30-100	1	1.1	443
MPQL200N4	40-200	2	1800MPQL4	400-2000	20	1800MPQL4-A	30-130	2	1.8	500
MQL280N	40-280		2800MQL3	kgf·m 4-28	kgf·m 0.2	2800MQL3-A	60-300	3	2.6	467

- Note**
1. Two different sizes of adapter, standard type and long type, are available. Long type is 100mm longer than standard type.
 2. 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)

Socket

Model	Part #	Nominal Size (mm)	Applicable Model
SOCKET 4MH-12	701	12	MPQL50N MPQL100N4 MPQL140N MPQL200N4
SOCKET 4MH-13	702	13	
SOCKET 4MH-14	703	14	
SOCKET 4MH-16	704	16	
SOCKET 4MH-17	705	17	
SOCKET 4MH-18	706	18	
SOCKET 4MH-19	707	19	
SOCKET 4MH-21	708	21	
SOCKET 4MH-22	709	22	
SOCKET 4MH-24	710	24	
SOCKET 4MH-27	711	27	
SOCKET 6MH-22	720	22	MQL280N
SOCKET 6MH-24	721	24	
SOCKET 6MH-27	722	27	
SOCKET 6MH-30	723	30	

Adapter

Model	Part #	Applicable Model
ADAPTER 17L	748	MPQL50N - 200N4
ADAPTER 17S	749	
ADAPTER 21L	751	
ADAPTER 21S	752	MQL280N

Note Socket must be ordered in set with adapter.

Marker Head

Model	Part #	Color
MK52R	780	RED
MK52B	781	BLUE
MK52	782	-
MK92R	783	RED
MK92B	784	BLUE
MK92	785	-

- Note**
1. MK92 does not connect with the socket having 12-16mm width across flats.
 2. Marker cartridge of MK52 and MK92 are not filled the ink. Select MK52 or MK92 and Refill ink White or Yellow at the same time.
 3. MK52 types have 5mm marking diameter, MK92 types have 9mm marking diameter.

Refill Ink and Solvent

Model	Part #	Color
MARKER INK	770	RED
MARKER INK	771	BLUE
MARKER INK	406	WHITE
MARKER INK	772	YELLOW
SOLVENT FOR R/B	790	For Red and Blue ink
SOLVENT FOR W/Y	791	For White and Yellow ink

CMQSP

Marking Torque Wrench

Direction



Marked bolt head

Assembly **Preset** **Ratchet Head** **Quick Drying Ink**

- 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]	Width Across Flat	Overall Length [mm]	Weight [kg]
	Min.-Max.			
CMQSP-M6	5-25	5	241	0.85
CMQSP-M8	10-50	6	241	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. Please specify required set torque when you order. (Ex. CMQSP-M10 x 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
406	White Ink
772	Yellow Ink
791	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 and Tohnichi's Adjusting Adapter and Pole Holder are necessary for CMQSP torque adjustment.

CMQSP Adjusting Tool (P.38)

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

Torque Wrench for Assembly

Torque Wrench with Limit Switch

- Various styles 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-4mk2)
- Can be upgraded into wireless output system (FH256MC)
- Ideal for torque verification assembly processes.



QL style with LS

S.I. Model	Metric Model
QLMS12N4	120QL4MS
QLLS25N	225QL3LS
QLLS50N	450QL3LS
QLLS100N4	900QL4LS
QLLS140N	1400QL3LS
QLLS200N4	1800QL3LS
QLLS280N	2800QL3LS
QLLS420N	4200QL2LS

Limit switch specifications
AC30V Below 1A
DC30V Below 1A



SPLS38Nx17

QSP style with LS

S.I. Model	Metric Model
QSPMS12N4	120QSP4MS
QSPS25N3	225QSP3LS
QSPS50N3	450QSP3LS
QSPS100N4	900QSP4LS
QSPS140N3	1400QSP3LS
QSPS200N4	1800QSP3LS
QSPS280N3	2800QSP3LS
QSPS420N	4200QSP2LS

PQL style with LS

S.I. Model	Metric Model
PQLS25N	225PQLLS
PQLS50N	450PQLLS
PQLS100N4	900PQL4LS
PQLS140N	1400PQLLS
PQLS200N4	1800PQL4LS
PQLS280N	2800PQLLS
PQLS420N	4200PQLLS

CL style with LS

S.I. Model	Metric Model
CLMS12N4x8D	120CL4MS
CLLS25Nx10D	225CL3LS
CLLS50Nx12D	450CL3LS
CLLS50Nx15D	500CL3LS
CLLS100Nx15D	900CL3LS
CLLS140Nx15D	1400CL3LS
CLLS200Nx19D	1800CL3LS
CLLS280Nx22D	2800CL3LS
CLLS420Nx22D	4200CL2LS

CSP style with LS

S.I. Model	Metric Model
CSPMS12N4x8D	120CSP4MS
CSPLS25Nx10D	225CSP3LS
CSPLS50Nx12D	450CSP3LS
CSPLS50Nx15D	500CSP3LS
CSPLS100Nx15D	900CSP3LS
CSPLS140Nx15D	1400CSP3LS
CSPLS200Nx19D	1800CSP3LS
CSPLS280Nx22D	2800CSP3LS
CSPLS420Nx22D	4200CSP2LS

PCL style with LS

S.I. Model	Metric Model
PCLLS25Nx10D	225PCLLS
PCLLS50Nx10D	450PCLLS
PCLLS50Nx12D	500PCLLS
PCLLS100Nx15D	900PCLLS
PCLLS140Nx15D	1400PCLLS
PCLLS200Nx19D	1800PCLLS

TiQL style with LS

S.I. Model	Metric Model
TiQLS180N	1800TiQLLS
TiLQLS180N	1800TiLQLLS
TiEQLS360N	3600TiEQLLS

QRSP style with LS

S.I. Model	Metric Model
QRSPS38Nx17	3800QRSP3LS
QRSPS38Nx19	3800QRSP3LS
QRSPS38Nx21	3800QRSP3LS
QRSPS38Nx24	3800QRSP3LS

SP, SP-MH style with LS

Model (Body Size x Width)	
SP	SP-MH
SPLS8Nx7	-
SPLS8Nxc	-
SPLS8Nx9	-
SPLS8Nx10	-
SPLS8Nx12	-
SPLS19Nx10	SPLS19Nx10-MH
SPLS19Nx11	SPLS19Nx11-MH
SPLS19Nx12	SPLS19Nx12-MH
SPLS19Nx13	SPLS19Nx13-MH
SPLS19Nx14	SPLS19Nx14-MH
SPLS19Nx17	SPLS19Nx17-MH
SPLS19Nx19	SPLS19Nx19-MH
SPLS19Nx21	SPLS19Nx21-MH
SPLS19N-1x10	SPLS19N-1x10-MH
SPLS19N-2x10	SPLS19N-2x10-MH
SPLS19N-3x10	SPLS19N-3x10-MH
SPLS38Nx8	SPLS38Nx8-MH
SPLS38Nx9	SPLS38Nx9-MH
SPLS38Nx10	SPLS38Nx10-MH
SPLS38Nx11	SPLS38Nx11-MH
SPLS38Nx12	SPLS38Nx12-MH
SPLS38Nx13	SPLS38Nx13-MH
SPLS38Nx14	SPLS38Nx14-MH
SPLS38Nx16	SPLS38Nx16-MH
SPLS38Nx17	SPLS38Nx17-MH
SPLS38Nx19	SPLS38Nx19-MH
SPLS38Nx22	SPLS38Nx22-MH
SPLS38Nx24	SPLS38Nx24-MH
SPLS38Nx27	SPLS38Nx27-MH
SPLS38N-1x10	SPLS38N-1x10-MH
SPLS38N-2x10	SPLS38N-2x10-MH
SPLS38N-3x10	SPLS38N-3x10-MH
SPLS67Nx14	-
SPLS67Nx16	-
SPLS67Nx17	-
SPLS67Nx18	-
SPLS67Nx19	-
SPLS67Nx21	-

SP, SP-MH style with LS

Model (Body Size x Width)	
SP	
SPLS67Nx22	6700SPLS3LS
SPLS67Nx24	6700SPLS3LS
SPLS67Nx27	6700SPLS3LS
SPLS67Nx29	6700SPLS3LS
SPLS67Nx30	6700SPLS3LS
SPLS67Nx32	6700SPLS3LS
SPLS67Nx33.3	6700SPLS3LS
SPLS120Nx14	1200SPLS3LS
SPLS120Nx17	1200SPLS3LS
SPLS120Nx18	1200SPLS3LS
SPLS120Nx19	1200SPLS3LS
SPLS120Nx21	1200SPLS3LS
SPLS120Nx22	1200SPLS3LS
SPLS120Nx23	1200SPLS3LS
SPLS120Nx24	1200SPLS3LS
SPLS160Nx19	1600SPLS3LS
SPLS160Nx21	1600SPLS3LS
SPLS160Nx22	1600SPLS3LS
SPLS160Nx24	1600SPLS3LS
SPLS160Nx26	1600SPLS3LS
SPLS160Nx27	1600SPLS3LS
SPLS220Nx19	2200SPLS3LS
SPLS220Nx22	2200SPLS3LS
SPLS220Nx24	2200SPLS3LS
SPLS220Nx27	2200SPLS3LS
SPLS220Nx29	2200SPLS3LS
SPLS220Nx30	2200SPLS3LS
SPLS220Nx32	2200SPLS3LS
SPLS220Nx34	2200SPLS3LS
SPLS220Nx36	2200SPLS3LS
SPLS310Nx22	3100SPLS3LS
SPLS310Nx24	3100SPLS3LS
SPLS310Nx27	3100SPLS3LS
SPLS310Nx30	3100SPLS3LS
SPLS310Nx32	3100SPLS3LS
SPLS310Nx41	3100SPLS3LS
SPLS310Nx46	3100SPLS3LS

RSP style with LS

Model (Body Size x Width)	
RSP	
RSPLS8Nx8	800RSPLS3LS
RSPLS8Nx10	800RSPLS3LS
RSPLS19Nx8	1900RSPLS3LS
RSPLS19Nx10	1900RSPLS3LS
RSPLS19Nx13	1900RSPLS3LS
RSPLS38Nx10	3800RSPLS3LS
RSPLS38Nx12	3800RSPLS3LS
RSPLS38Nx13	3800RSPLS3LS
RSPLS38Nx14	3800RSPLS3LS
RSPLS38Nx17	3800RSPLS3LS
RSPLS67Nx14	6700RSPLS3LS
RSPLS67Nx17	6700RSPLS3LS
RSPLS67Nx19	6700RSPLS3LS
RSPLS120Nx17	1200RSPLS3LS
RSPLS120Nx19	1200RSPLS3LS
RSPLS120Nx22	1200RSPLS3LS
RSPLS160Nx19	1600RSPLS3LS
RSPLS160Nx22	1600RSPLS3LS
RSPLS160Nx24	1600RSPLS3LS
RSPLS220Nx22	2200RSPLS3LS
RSPLS220Nx24	2200RSPLS3LS
RSPLS220Nx27	2200RSPLS3LS
RSPLS310Nx24	3100RSPLS3LS
RSPLS310Nx27	3100RSPLS3LS
RSPLS310Nx30	3100RSPLS3LS

SP-N, SP-N-MH style with LS

Model (Body Size x Width)	
SPLS-N	SPLS-N-MH
SPLS19N-1x10N	SPLS19N-1x10N-MH
SPLS19N-3x10N	SPLS19N-3x10N-MH
SPLS19N-4x10N	SPLS19N-4x10N-MH
SPLS19N-5x10N	SPLS19N-5x10N-MH
SPLS19N-8x10N	SPLS19N-8x10N-MH
SPLS19N-9x10N	SPLS19N-9x10N-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-8x10N is about 5m in full extension.

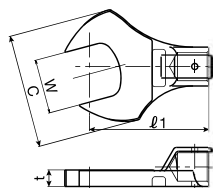
Torque Wrench for Assembly



Interchangeable Head

SH

Open Spanner Head



SH15Dx19

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.

Tohnichi Head Size	Model (Body Size x Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N-m]	[kgf-cm]		
8D	SH8Dx5.5	1.5	15	13	3
	SH8Dx6	2.5	25	15	3.5
	SH8Dx7	3.5	35	17	4
	SH8Dx8	7	70	20	4.5
	SH8Dx10			25	
	SH8Dx11			27	5.5
	SH8Dx12				
	SH8Dx13			29	
	SH8Dx14				
	SH8Dx16	14	140	31	
	SH8Dx17			32	
	SH8Dx19			35	6.5
	SH8Dx21			36	
	SH8Dx22			37	
SH8Dx24			38		
10D	SH10Dx7				
	SH10Dx8				
	SH10Dx10	20	200	28	
	SH10Dx11				
	SH10Dx12				
	SH10Dx13			32	
	SH10Dx14				6.5
	SH10Dx16				
	SH10Dx17				
	SH10Dx18	22.5	225	39	
SH10Dx19					
SH10Dx21					
SH10Dx22					
SH10Dx24			43		
12D	SH12Dx8	7	70	20	5
	SH12Dx10	11.8	118	24	
	SH12Dx11	20.5	205	28	5.5
	SH12Dx12			31	6.5
	SH12Dx13	29.5	295	32	
	SH12Dx14	59	590	38	8
	SH12Dx16				
	SH12Dx17			40	10
	SH12Dx18				
	SH12Dx19			41	11
	SH12Dx21	70	700		
	SH12Dx22			43	
	SH12Dx24			48	13
	SH12Dx27			52	
15D	SH15Dx12				
	SH15Dx13	59	590	38	8
	SH15Dx14				
	SH15Dx16				
	SH15Dx17				
	SH15Dx18	140	1400	51	13
	SH15Dx19				
	SH15Dx21				
	SH15Dx22				

Tohnichi Head Size	Model (Body Size x Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N-m]	[kgf-cm]		
15D	SH15Dx24				
	SH15Dx26				
	SH15Dx27				
	SH15Dx30	140	1400	60	12
	SH15Dx32				
	SH15Dx36			68	
19D	SH19Dx17				
	SH19Dx18	200	2000		
	SH19Dx19			54	13
	SH19Dx21				
	SH19Dx22	180	1800		
	SH19Dx24	200	2000	60	15
22D	SH19Dx27				
	SH19Dx30	180	1800		
	SH19Dx32				
	SH19Dx34	200	2000	76	11
	SH19Dx36				
	SH19Dx41	180	1800		
27D	SH22Dx19				
	SH22Dx22	280	2800	63	
	SH22Dx24				
	SH22Dx27	500	5000		
	SH22Dx30	420	4200	78	
	SH22Dx32				
	SH22Dx34				
	SH22Dx36	500	5000		15
	SH22Dx38				
	SH22Dx41	420	4200	85	
32D	SH22Dx46	280	2800		
	SH22Dx50				
	SH22Dx55	500	5000	103	
	SH27Dx22	255	2550	65	14
	SH27Dx24	350	3500	72	15
	SH27Dx27	490	4900	82	16
	SH27Dx30	670	6700	88	19
	SH27Dx32	750	7500	92	20
	SH27Dx34	670	6700	90	
	SH27Dx36			94	21
32D	SH27Dx41	750	7500	98	22
	SH27Dx46			100	24
	SH27Dx50			103	26
	SH32Dx27				
	SH32Dx30				
	SH32Dx32	850	8500	105	18
	SH32Dx34				
	SH32Dx36				
	SH32Dx41			110	24
	SH32Dx46	1200	12000		
32D	SH32Dx50				
	SH32Dx55			120	29
	SH32Dx60				

Inch Size Models

NEW

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

Tohnichi Head Size	Model (Body Size x Inner Width [in])	Inner Width [mm]	Allowable Torque		Outside Width C		Thickness t	
			[N-m]	[lbf-in]	[mm]	[in]	[mm]	[in]
10D	SH10Dx1/4	6.35						
	SH10Dx5/16	7.94	20	177	28	1.10		
	SH10Dx3/8	9.53						
	SH10Dx7/16	11.11					6.5	0.26
	SH10Dx1/2	12.7	25	221	32	1.26		
	SH10Dx9/16	14.29			39	1.54		
12D	SH12Dx3/8	9.53	12	106	24	0.94	5	0.20
	SH12Dx7/16	11.11	20.5	181	31	1.22		
	SH12Dx1/2	12.7	29.5	261	32	1.26	6.5	0.26
	SH12Dx9/16	14.29						
	SH12Dx5/8	15.88	59	522	40	1.57	10	0.39
	SH12Dx11/16	17.46	70	620	41	1.61	11	0.43
15D	SH15Dx1/2	12.7						
	SH15Dx9/16	14.29	59	522	38	1.50	8	0.31
	SH15Dx5/8	15.88						
	SH15Dx11/16	17.46						
	SH15Dx3/4	19.05	140	1239	51	2.01	13	0.51
	SH15Dx13/16	20.64						

Accessories

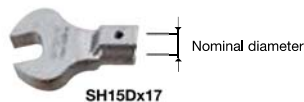


The Relationship between Interchangeable Heads and Torque Wrenches

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: SH15Dx17 will fit on CL100Nx15D

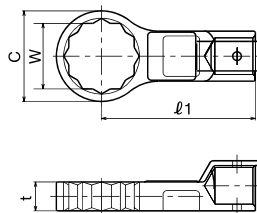
A variety of different head types (SH, RH, QH, RQH, FH, DH, AH and SP-N) can be used on one wrench or different types of wrenches such as CL (for tightening) and CEM3 (for inspection) can use the same head that has the corresponding diameter size.



RH Ring Head

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: RH8Dx5.5 to RH8Dx7 are hex shape.



RH15Dx17

Tohnichi Head Size	Model (Body Size x Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]	
		[N-m]	[kgf-cm]			
8D	RH8Dx5.5	1.5	15	10.5	5	
	RH8Dx6	2.4	24	11		
	RH8Dx7	3.6	36	12	6	
	RH8Dx8	7.2	72	13.5		
	RH8Dx10	12.2	122	15.5		
	RH8Dx11			17	7	
	RH8Dx12	14	140	18		
	RH8Dx13			19		
	10D	RH10Dx8	7.2	72	12.5	6
		RH10Dx10	12.2	122	15.5	
RH10Dx11		20	200	17	8	
RH10Dx12				18		
RH10Dx13				19		
RH10Dx14				20	8	
RH10Dx16				22		
RH10Dx17		25	250	24		
RH10Dx18				25		
RH10Dx19				26		
RH10Dx21			28			
RH10Dx22			29			
12D	RH12Dx8	7.2	72	15	5	
	RH12Dx10	12.2	122	16		5.5
	RH12Dx11	20	200	18	6.5	
	RH12Dx12	29.5	295	20		
	RH12Dx13			21		
	RH12Dx14	59	590	20	10	
	RH12Dx16			24		
	RH12Dx17			25		
	RH12Dx18			26		12
	RH12Dx19	70	700	26		
RH12Dx21			29			
RH12Dx22			30	13		
RH15Dx12			19			
15D	RH15Dx13	29.5	295	20.5	7	
	RH15Dx14			22		8
	RH15Dx16	59	590	25		
	RH15Dx17			26	10	
	RH15Dx18	100	1000	27		
	RH15Dx19			28		
	RH15Dx21			31		13
	RH15Dx22			31		
	RH15Dx24	140	1400	34		
	RH15Dx27			37		
RH15Dx30			41			

Tohnichi Head Size	Model (Body Size x Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N-m]	[kgf-cm]		
19D	RH19Dx14	59	590	22.5	8
	RH19Dx17			27	
	RH19Dx18	100	1000	28	11
	RH19Dx19			29	
	RH19Dx21	166	1660	32	
	RH19Dx22			32	13
	RH19Dx24			35	
	RH19Dx27			39	
	RH19Dx30			41	15
	RH19Dx32	200	2000	44	
RH19Dx34			47		
22D	RH19Dx36			49	14
	RH19Dx41			55	
	RH22Dx19	166	1660	30	
	RH22Dx22	255	2550	34	15
	RH22Dx24			37	
	RH22Dx27	490	4900	41	17
	RH22Dx30			44	
	RH22Dx32			45	
	RH22Dx34			49	
	RH22Dx36	500	5000	51	
RH22Dx41			57		
RH22Dx46			62	14	
RH27Dx22	255	2550	38		
RH27Dx24	350	3500	41	15	
RH27Dx27	490	4900	42		
RH27Dx30	670	6700	46	16	
RH27Dx32	750	7500	48		
RH27Dx34	670	6700	51	19	
RH27Dx36			52		
RH27Dx41			58	20	
RH27Dx46	750	7500	64		
RH27Dx50			69	21	
RH32Dx27	490	4900	43		
RH32Dx30	670	6700	46.5	16	
RH32Dx32			49		
RH32Dx34	860	8600	52	18	
RH32Dx36			53		
RH32Dx41			59	24	
RH32Dx46			65		
RH32Dx50	1200	12000	69	27	
RH32Dx55			75		
RH32Dx60			80		

Inch Size Models

NEW

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

Tohnichi Head Size	Model (Body Size x Inner Width [in])	Allowable Torque		Outside Width C		Thickness t	
		[N-m]	[lb-ft]	[mm]	[in]	[mm]	[in]
10D	RH10Dx1/4			11	0.43		
	RH10Dx5/16	7.2	64	12.5	0.49	6	0.24
	RH10Dx3/8	12.2	108	15.5	0.61	7	0.28
	RH10Dx7/16			17	0.67		
	RH10Dx1/2	25	221	19	0.75	8	0.31
12D	RH10Dx9/16			20	0.79		
	RH12Dx3/8	12.2	108	16	0.63	5	0.20
	RH12Dx7/16	20	177	18	0.71	5.5	0.22
	RH12Dx1/2	29.5	261	21	0.83	6.5	0.26
	RH12Dx9/16			20	0.79		
15D	RH12Dx5/8	59	522	24	0.94	10	0.39
	RH15Dx1/2	29.5	261	20.5	0.81	7	0.28
	RH15Dx9/16			22	0.87		
	RH15Dx5/8	59	522	25	0.98	8	0.31
	RH15Dx11/16	100	885	27	1.06	10	0.39
RH15Dx3/4	140	1239	28	1.10	13	0.51	

Accessories



The Relationship between Interchangeable Heads and Torque Wrenches

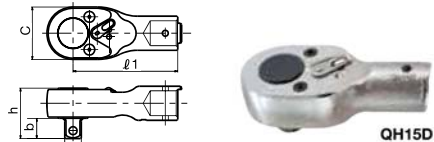
Tohnichi's interchangeable head wrenches have specific diameter round ends that fit into corresponding head base openings. Head and wrench model names include the diameter sizes so heads can be matched to wrenches that will accept those heads.

For example: SH15Dx17 will fit on CL100Nx15D

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

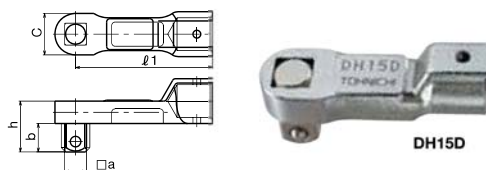


As the QH type ratchet heads need only small swing for tightening, they suit for operations in narrow spaces.

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	9.53	26	22	11
12D	QH12D		32	25.6	
15D	QH15D	12.7	37.5	33.5	14
19D	QH19D		40	38.4	15.4
22D	QH22D	19.05	51	46.5	21.5
27D	QH27D		70	49.7	
32D	QH32D	25.4	74	55.7	26.5

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

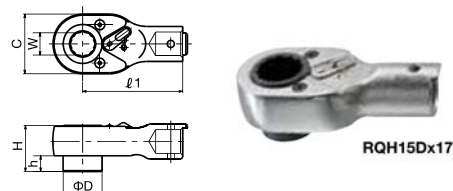
DH Square Drive Head



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

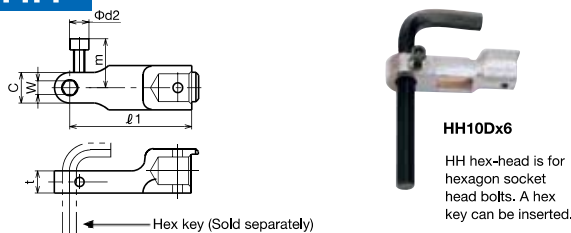
RQH Female Ratchet Head



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 x Width)	Dimensions			
		D [mm]	Outside Width C [mm]	H [mm]	h [mm]
12D	RQH12Dx12	20.5	32	24.1	10
	RQH12Dx14				
15D	RQH15Dx14	24.5	37.5	29	10
	RQH15Dx17				
19D	RQH19Dx17	31	45	28	10
	RQH19Dx19				
22D	RQH19Dx22	35.2	51	35	10
	RQH22Dx24				

HH Hex Head



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

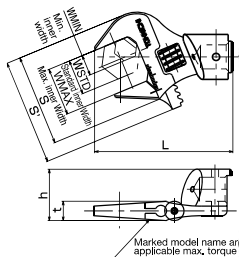
Tohnichi Head Size	Model (Body Size x Width)	Dimensions			
		Outside Width C [mm]	t [mm]	m [mm]	φd2 b [mm]
8D	HH8D	12	14.5	-	-
	HH10Dx5	11			
10D	HH10Dx6	12	8		
	HH10Dx8	15			
12D	HH12Dx5	11		19	7
	HH12Dx6	14	10		
	HH12Dx8	15			
15D	HH12Dx10	17			
	HH15Dx8	14			
	HH15Dx10	17		21	
19D	HH15Dx12	20			
	HH15Dx14	21.5			
	HH19Dx10	17	13		8.5
22D	HH19Dx12	21.5			
	HH19Dx14	23		23	
	HH19Dx17	27			
22D	HH19Dx19	29			
	HH22Dx12	19.5			
	HH22Dx14	27			
	HH22Dx17	30	17	26	10
22D	HH22Dx19	32			
	HH22Dx22	35			

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



Bits are sold separately. Refer to page 36.

AH Adjustable Open End Head



AH15Dx24

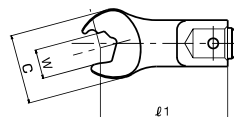
AH is easy and convenient to use for applications that require different size bolt heads. Available currently only for the 15mm diameter root shaped Tohnichi torque wrenches.

Tohnichi Head Size	Model (Body Size x Width)	Allowable Torque		Inner Width Min.-Standard-Max. [mm]	Dimensions				
		[N·m]	[kgf·cm]		S [mm]	S' [mm]	L [mm]	t [mm]	h [mm]
15D	AH15Dx24	50	500	10-14-24	46	54	80.2	10	30.5
	AH15Dx30	100	1000	13-22-30	57	66	86.3	12	32
	AH15Dx36	140	1400	13-24-36	67	78	88.4	13.5	33.75

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

Model	Recommendable Torque Wrench
AH15Dx24	CL50Nx15D
AH15Dx30	CL100Nx15D
AH15Dx36	CL140Nx15D

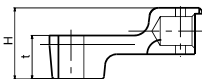
SH-N Open End Head with Notch



SH-N models (except for SH10D-5x10N)



SH10D-1x10N



SH10D-5x10N

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 x Width)	Allowable Torque		Dimensions			
		[N·m]	[kgf·cm]	Outside Width C [mm]	Thickness H [mm]	t [mm]	h [mm]
10D	SH10D-1x10N	22.5	225	24	18.75	12	6
	SH10D-3x10N				20.25	15	7.5
10D	SH10D-5x10N	19	190	24	24.5	10	-
	SH10D-4x10N	22.5	225	32	17.75	10	5
	SH10D-9x10N				18.75	6	6
	SH10Dx12N	25	250	16	6.5	3.25	

PH Pipe Wrench Head



PH15Dx350

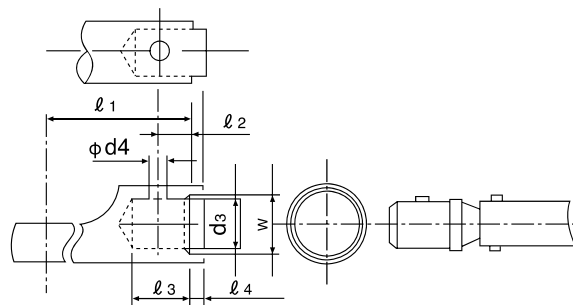
The PH heads suit for use with pipes and plumbing applications.

Tohnichi Head Size	Model (Body Size x Width)	Pipe Wrench Head Max. Length [mm]	Applicable Pipe Diameter [mm]	Standard Pipe Diameter [mm]	Recommendable Torque Wrench
15D	PH15Dx350	350	13-38	25.5	CSP
19D	PH19Dx350				
22D	PH22Dx350				
22D	PH22Dx450	450	26-52	39	
32D	PH32Dx450				

Note 1. When ordering with CSP, please specify PH model name and required set torque.
2. In case of using graduated torque wrench, order PHL models.

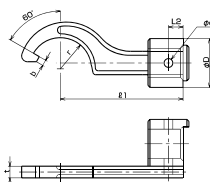
Common Dimensions for Interchangeable Head

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 special heads that will be used with torque wrenches that have an external scale or digital display, you must strictly follow the "L1" dimension in order to keep torque values accurate. Any deviation from the "L1" dimension will affect the torque.

FH Hook Head



FH

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

Tohnichi Head Size	Model (Body Size x 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	FH15Dx30	30-38	M20	16	60	3	6	30	25	7.5	4.5
	FH15Dx38	38-45	M25	20							
	FH15Dx45	45-52	M30	24							
	FH15Dx52	52-58	M35	27							
19D	FH15Dx58	58-65	M40	31	5	4.5	8	31	35.5	29	9.5
	FH19Dx65	65-75	M45, M50	35.5							
22D	FH22Dx75	75-85	M60, M65	39	5	10	40	38.5	32	11	5.5
	FH22Dx85	85-98	M70, M75	45.5							

