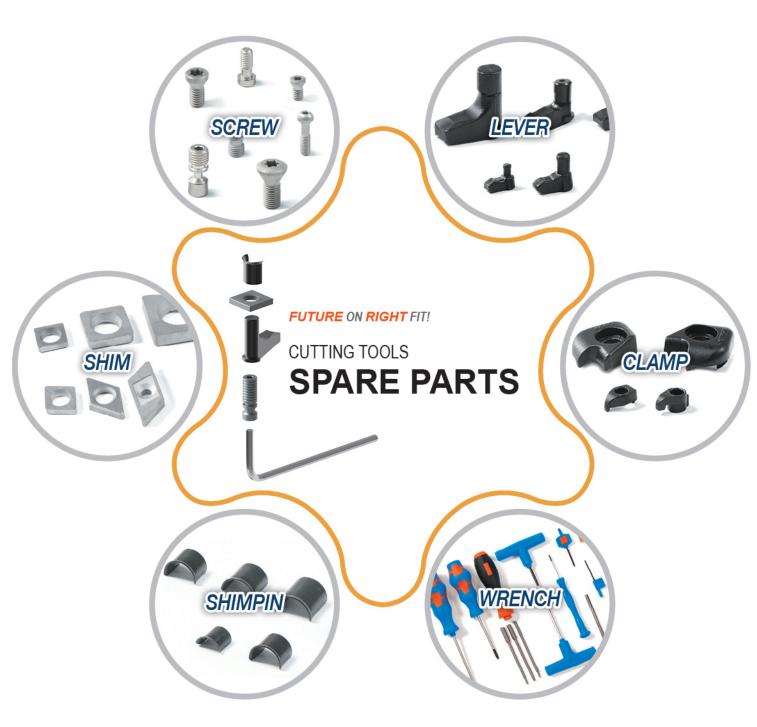




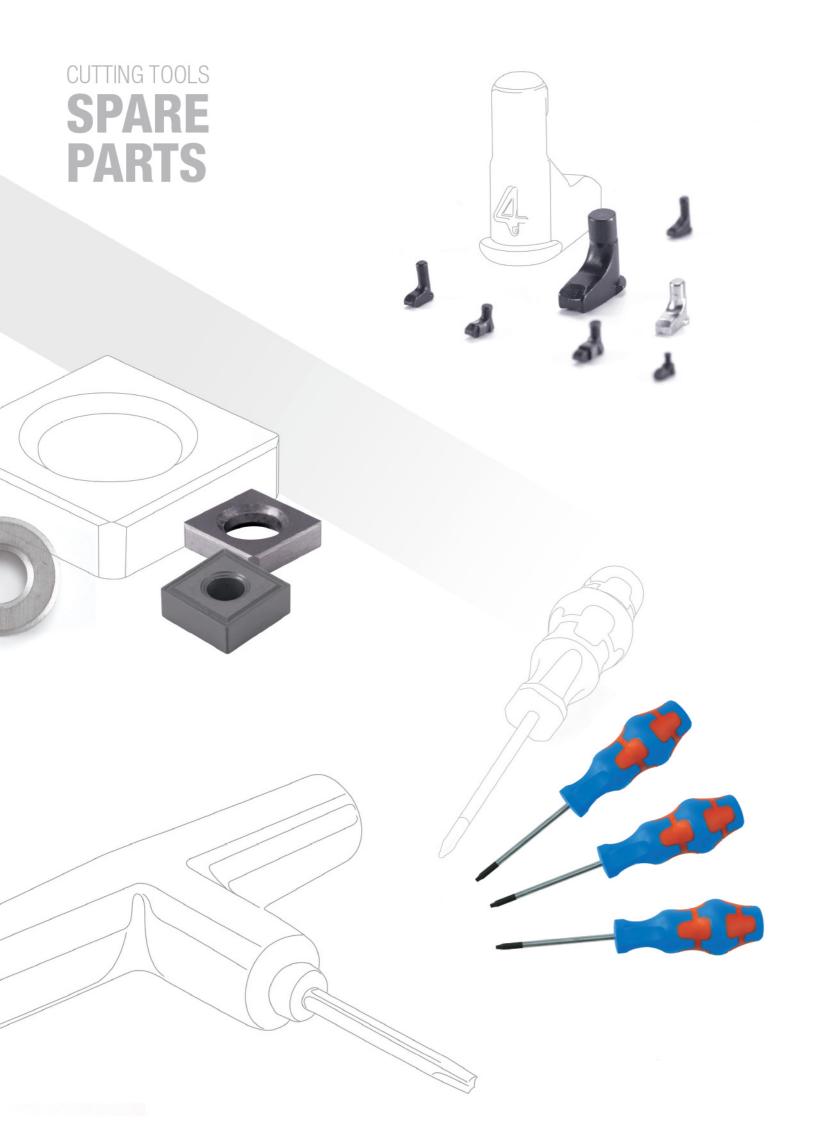
44, Jaingongdan 1-ro, Jain-myeon, Gyeongsan-si, Gyeongsangbuk-do, Korea T. **+82-53-812-9627** F. **+82-53-812-9628** 











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**SCREW** 

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**SCREW** 

**CLAMP** 

LEVER

SHIM

**SHIMPIN** 

**WRENCH** 

**GREASE** 

#### **Characteristics of screws**

- Mechanical property is excellent and dimensional accuracy is high due to cold forging process.
- · Guaranteed strength grade over 12.9 by using high tension material.
- Adjusting the screw grade according to the demand, such as 4h and 6g.

Ex

Way to check the product specifications

S	Т	2	043-	60	F	-HS
Form of use	Wrench	Metric thread	Length	Angle	Additional items	High+Strength
S : screw on type C : clamp on type W : for wedge L : for locator AD : adjustable Etc : for special	T : torx H : hexagonal TP : torx plus				F: fine screw None: normal screw M: machining Etc: for specials	

#### **X-Treatment**

X-Treatment refers to CMT's exclusive technology, which uses expanded heat treatment on metal or alloy surfaces to create the hardened layer that customers demand.

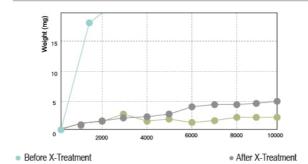
#### **Characteristics**

- Outstanding abrasion and corrosion resistance
- Guaranteed to be adherence-free, fracture-free
- · Able to adjust thickness of hardened layer
- · Able to adjust surface hardness and in-depth hardness
- Surface hardness : over 68 HRC
- In-depth hardness : adjustable according to use
- · Guaranteed zero-deformation after heat treatment

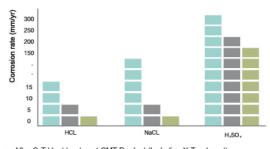
#### **Testing Data**

- Sample : Low carbon steel(C:0.04%, Mn:0.17%)
- ullet Testing meting method : 2kg load, 72rpm wheel spinning speed, using diamond wheel with average particle size of 20 $\mu$ m

#### **Comparison of Abrasion Resistance**

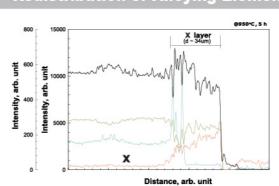


#### **Comparison of Corrosion Resistance**



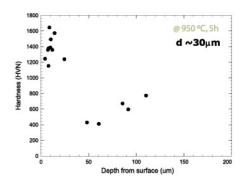
After Q-T Heat treatment CMT Product (Including X-Treatment)

#### **Redistribution of Alloying Elements**



- Extremely Low Content of Si in X Layer
- Concentration Profile of X Suggests That at Least Two
- X Layers Present

#### Changes in Hardness by w/t Distance





#### Cuttingtool / Parts CMT Co., Ltd.

# SCREW

Screw on

**Ball Cutter Screw** 

**Drill Fixing Screw** 

**Clamp Screw** 

Multi Screw

**Shim Screw** 

**Adjust Screw** 

**Locator Screw** 

Wedge Double Screw

**Special Screw** 

Nut





























07

#### \* 14.9 grade

14.9 grade screw are higher toughness than 12.9 grade screws and 1,400N/mm² of tensile strength.

#### Comparison of mechanical property

Grade	Tensile strength (N/mm²)	0.2% Yield strength (N/mm²)	Proof load (N/mm²)
8.8	800	640	580
10.9	1,000	900	830
12.9	1,200	1,080	970
14.9	1,400	1,260	1,120



06



			G	Grade - 14.9
Shape	Part No.	М	Torque N·m	Wrench
0.9-1 0.9-1 0.8 3.3	ST16033-60-HS	M1.6 × 0.35	0.25	Т6
0.8~0.9 0.6 4.2	ST18042-60-HS	M1.8 × 0.35	0.3	Т6
0.9~1.0	ST2038-60-HS	M2.0 × 0.4	0.5	Т6
0.8~0.9	ST2043-60-HS	M2.0 × 0.4	0.5	Т6
1.0~1.2	ST22045-60-HS	M2.2 × 0.45	0.6	Т6
1.0~1.2 8 10.7 5.5	ST2255-60-HS	M2.2 × 0.45	0.6	Т6
0.85-0.95	ST22052-60-HS	M2.2 × 0.45	0.6	Т7

Shape	Part No.	М	Torque N·m	Wrench
0.9~1.1 0.9~1.1 10.7 5.6	ST22056-60S-HS	M2.2 × 0.45	0.6	Т7
0.9~1.1 0.9~1.1 0.9~1.1	ST25057-43-HS	M2.5 × 0.45	1	Т7
1.2~1.4	ST25055-50-HS	M2.5 × 0.45	1	Т8
1.05	ST25064-50-HS	M2.5 × 0.45	1	Т8
1.1~1.3 08 10.8 5.5	ST25055-60-HS	M2.5 × 0.45	1	Т7
1.1~1.3 °08 10.8 6.5	ST25065-60-HS	M2.5 × 0.45	1	Т7
1.1~1.3 © E E E E E E E E E E E E E E E E E E E	ST25055-60S-HS	M2.5 × 0.45	1	Т8



			G	Grade - 14.9
Shape	Part No.	M	Torque N·m	Wrench
1.1~1.3 8.6.5 10.8 6.5	ST25065-60S-HS	M2.5 × 0.45	1	Т8
1.2 0.5 6.5	ST25065-R1.9-HS	M2.5 × 0.45	1	Т8
1.0~1.2 0.5 6.2	ST3062-60-HS	M3.0 × 0.5	2	Т9
1.1~1.3	ST3072-60H-HS	M3.0 × 0.5	2	Т9
1.25~1.6	ST3508-60-HS	M3.5 × 0.6	3	T15
1.3~1.5 1.3~1.5 1.0 8.4	ST35084-60H-HS	M3.5 × 0.6	3	T15
1.2 0.75 8.75	ST35087-60U-HS	M3.5 × 0.6	3	T10

Shape	Part No.	М	Torque N·m	Wrench
1.4~1.7 0.9 8.75	ST35087-60-HS	M3.5 × 0.6	3	T15
1.25~1.6	ST3510-60-HS	M3.5 × 0.6	3	T15
1.3~1.5	ST35104-60-HS	M3.5 × 0.6	3	T15
1.25~1.6	ST3512-60-HS	M3.5 × 0.6	3	T15
1.5~1.7 88 12 1.0	ST3512-60B-HS	M3.5 × 0.6	3	T15
1.3~1.5	ST3508-63-HS	M3.5 × 0.6	3	T15
2.0~2.2	ST411-60F-HS	M4 × 0.5	4	T15



			G	Grade - 14.9
Shape	Part No.	M	Torque N·m	Wrench
1.5~1.7	ST4084-60-HS	M4.0 × 0.7	4	T15
1.2~1.5 0.6 8.5	ST4085-60-HS	M4.0 × 0.7	4	T15
1.6 00 1.2 1.2	ST410-60H-HS	M4.0 × 0.7	4	T15
1.4~1.6 0.5	ST411-60-HS	M4.0 × 0.7	4	T15
1.5~1.7 00 01 1.5~1.7 11 11	ST411-60W-HS	M4.0 × 0.7	4	T15
2.0~2.2 2.0~2.2 11.5	ST412-60K-HS	M4x0.7	4	T15
1.5	ST412-60-HS	M4 × 0.7	4	T15

Shape	Part No.	М	Torque N·m	Wrench
1.2~1.3 % 98 0.8 8	ST408-86-HS	M4x0.7	4	T15
S 1.7 0.7 10	ST410-R3-HS	M4.0 × 0.7	4	T15
S 1.6 ≥ 1 11 11	ST411-R3-HS	M4.0 × 0.7	4	T15
1.8~2.0	ST45095-55-HS	M4.5x0.75	5	T20
1.8~2.0 0.7 11.5	ST45115-55-HS	M4.5x0.75	5	T20
1.6 1.6 1.0 1.0 1.0 1.0 1.0	ST4512-R3.5-HS	M4.5 × 0.75	5	T20
1.85 04 1.00 10.6	ST5106-40-HS	M5 × 0.8	7	T20



			G	Grade - 14.9
Shape	Part No.	M	Torque N·m	Wrench
1.5~1.8	ST511-43K-HS	M5x0.8	7	T20
2.2~2.5	ST523-43-HS	M5 x 0.8	7	T20
1.5~1.8	ST513-60-HS	M5 × 0.8	5	T20
1.5~1.8	ST516-60-HS	M5 × 0.8	5	T20
1.7~1.9 1.2~1.3 13.2	ST5132-61-HS	M5 × 0.8	7	T20
1.5~1.6 2 10.7	ST511-63-HS	M5 × 0.8	5	T20
2.4 2.4 1.3 13	ST513-63PH-HS	M5 × 0.8	5	T20

			G	irade - 14.9
Shape	Part No.	М	Torque N·m	Wrench
1.8 0.8 13	ST513-R3.5-HS	M5 × 0.8	7	T20
2.1 0.9 18	ST618-60-HS	M6x1.0	7	T25
0.6~0.8		Grad	le - 14.9 + <b>T</b>	ORX PLUS
0.45 3.8	STP18038-75-HS	M1.8 × 0.35	0.3	T5 IP
0.8~0.9 0.6 4.09	STP18041-60-HS	M1.8 × 0.35	0.3	T6 IP
0.8~0.9	STP2043-60-HS	M2.0 × 0.4	0.5	T6 IP
1.0~1.2 00 00 00 00 00 00 00 00 00 00 00 00 00	STP22063-60-HS	M2.2 × 0.45	0.6	T7 IP
0.9 5.9	STP25059-60-HS	M2.5 × 0.45	1	T8 IP

SCREW ON - 14.9 + TORX PLUS



		Gra	de - 14.9 + <b>T</b> e	ORX PLUS
Shape	Part No.	M	Torque N·m	Wrench
9 9 1.1~1.3	STP309-56-HS	M3.0 × 0.5	2	T9 IP
1.6	STP410-60H-HS	M4.0 × 0.7	4	T15 IP
1.4~1.6 0 9 9 11.5	STP4115-60-HS	M4.0 × 0.7	4	T15 IP
1.6 2.5 2.5 2.5 2.5 2.5 11.1 12.5	STP4125-60B-HS	M4.0 × 0.7	4	T15 IP
1.9-2.1 Se 1.2	STP514-60-HS	M5.0 × 0.8	7	T20 IP
2.3~2.5 00 00 00 00 00 00 00 00 00 1.2	STP614-60-HS	M6.0 × 1.0	8	T25 IP

			G	3rade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
0.9~1.0	ST203-60	M2 × 0.4	0.5	Т6
0.9~1.0 0.65 3.35	ST20335-60	M2 × 0.4	0.5	Т6
0.9~1.0	ST204-60S	M2 × 0.4	0.5	Т6
0.8~0.9	ST2043-60	M2 × 0.4	0.5	Т6
0.8~1.0	ST22045-55	M2.2 × 0.45	0.6	Т6
1.0~1.2 0.7 4.5	ST22045-60	M2.2 × 0.45	0.6	Т6
1.0~1.2	ST2205-60S	M2.2 × 0.45	0.6	Т6



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.0~1.2 8 10.7 5.5	ST2255-60	M2.2 × 0.45	0.6	Т6
0.7~0.9	ST22046-61	M2.2 × 0.45	0.6	Т7
0.7~0.9 0.8 6	ST2206-61	M2.2 × 0.45	0.6	Т7
0.9~1.1	ST25057-43	M2.5 × 0.45	1	Т7
1.3	ST25055-50	M2.5 × 0.45	1	Т8
0.9~1.0 0.6 6.4	ST25064-50	M2.5 × 0.45	1	Т8
1.1~1.3 2.5 2.6 7.5	ST25075-50	M2.5 × 0.45	1	Т8

Shape	Part No.	М	Torque N·m	Wrench
1.1 1.1 1.1 1.1 1.1 1.1	ST2553-55	M2.5 × 0.45	1	Т8
1.1~1.3 00 00 00 00 00 00 00 00 00 00 00 00 00	ST2505-60S(T8)	M2.5 × 0.45	1	Т8
1.05~1.22 00 00 1.00~1.1 5.2	ST25052-60(T8)	M2.5 × 0.45	1	Т8
0.8~1.0 0.8~1.0 0.8~1.0	ST25052-60	M2.5 × 0.45	1	Т7
1.1~1.3 0.8 0.8 5.5	ST25055-60	M2.5 × 0.45	1	Т7
1.1~1.3 8.8 10.8 5.5	ST25055-60S(T8)	M2.5 × 0.45	1	Т8
1.1~1.3 0.7 5.7	ST25057-60	M2.5 × 0.45	1	Т8



			G	Grade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
1.0~1.2 9 8 8 1 0.8 6	ST25060-60S	M2.5 × 0.45	1	Т8
1.1~1.3 20 20 20 20 20 20 20 20 20 20	ST25065-60	M2.5 × 0.45	1	Т7
1.1~1.3 © 8.6.5	ST25065-60S(T8)	M2.5 × 0.45	1	Т8
0.9~1.1 0.6 5.5	ST25055-62	M2.5 × 0.45	1	Т8
1.4	ST307-55	M3 × 0.5	1.8	Т8
1.0~1.2 00 00 00 00 00 00 00 00 00 00 00 00 00	ST3062-60	M3 × 0.5	1.8	Т9
1.0~1.2 00 10.5 7.2	ST3072-60	M3 × 0.5	1.8	Т9

Shape	Part No.	М	Torque N·m	Wrench
1.1~1.3 00 1.1~1.3	ST3072-60IJ	M3 × 0.5	1.8	Т8
1.1~1.3 00 1.1~1.3	ST3072-60H	M3 × 0.5	1.8	Т9
1.1~1.3	ST3083-60	M3 × 0.5	1.8	Т9
1.1~1.3 00 1.1~1.3	ST3092-60	M3 × 0.5	1.8	Т9
1.3	CH306-91	M3 × 0.5	2.5	H2
1.3	CH308-91	M3 × 0.5	2.5	H2
1.3	SH310-91	M3 × 0.5	2.5	H2



			G	Grade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
1.3~1.5 8.7 1.1 7	ST307-92	M3 × 0.5	1	Т8
1.5 1.5 1.5 1.6 9	ST3509-55	M3.5 × 0.6	3	T15
1.3~1.5	ST3511-55	M3.5 × 0.6	3	T15
1.2~1.3	ST3506-60	M3.5 × 0.6	3	T15
1.25~1.6	ST3507-60H	M3.5 × 0.6	3	T15
1.2~1.3	ST3507-60	M3.5 × 0.6	3	T15
1.25~1.6	ST3508-60	M3.5 × 0.6	3	T15

Shape	Part No.	М	Torque N·m	Wrench
12-1.4	ST35084-60	M3.5 × 0.6	3	T10
1.3~1.5	ST35084-60H	M3.5 × 0.6	3	T15
1.25~1.6	ST35085-60	M3.5 × 0.6	3	T15
12~1.3	ST3509-60	M3.5 × 0.6	3	T15
1.25~1.6	ST3510-60	M3.5 × 0.6	3	T15
1.3~1.5	ST35104-60	M3.5 × 0.6	3	T15
1.3~1.5	ST3511-60A	M3.5 × 0.6	3	T15



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.2~1.3	ST3511-60	M3.5 × 0.6	3	T15
1.25~1.6	ST3512-60	M3.5 × 0.6	3	T15
1.25~1.6	ST35124-60	M3.5 × 0.6	3	T15
1.3~1.5 8 8 10.7 8	ST3508-63	M3.5 × 0.6	3	T15
1.3~1.5 20 1.3~1.5	ST3512-63	M3.5 × 0.6	3	T15
1.8~2.0 20 1.8~2.0	ST3510-92	M3.5 × 0.6	3	T15
1.2~1.5	ST407-50F	M4 × 0.5	4	T15

Shape	Part No.	М	Torque N·m	Wrench
2.0-2.2	ST415-60F	M4 × 0.5	4	T15
1.0~1.2	ST4033-91F	M4 × 0.5	4	T15
1.0~1.2	ST4043-91F	M4 × 0.5	4	T15
1.0~1.2	ST4053-91F	M4 × 0.5	4	T15
1.0~1.2	ST4063-91F	M4 × 0.5	4	T15
1.2-1.6	ST4073-91FH	M4 × 0.5	4	T15
1.2-1.6	ST4083-91F	M4 × 0.5	4	T15

SCREW



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.2~1.6	ST4093-91F	M4 × 0.5	4	T15
1.2-1.6 1.2-1.6 1.2-1.6 1.2-1.6	ST4103-91F	M4 × 0.5	4	T15
1.2~1.6	ST4123-91F	M4 × 0.5	4	T15
1.2-1.6	ST4133-91F	M4 × 0.5	4	T15
1.5	ST408-43	M4 × 0.7	4	T15
1.3-1.5 1.3-1.5 1.3-1.5	ST412-43	M4 × 0.7	4	T15
1.7 0.45 11.75	ST41175-44	M4 × 0.7	4	T20

Shape	Part No.	M	Torque N·m	Wrench
1.2~1.5	ST4075-60	M4 × 0.7	3.5	T15
1.6	ST4084-60	M4 × 0.7	3.5	T15
1.2~1.5	ST4085-60	M4x0.7	4	T15
1.2~1.5	ST409-60	M4 × 0.7	4	T15
1.4~1.6	ST4093-60	M4 × 0.7	3.5	T15
1.2~1.5	ST410-60	M4 × 0.7	3.5	T15
1.6	ST410-60H	M4 × 0.7	3.5	T15



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.55 20 1.2 10.1	ST4101-60W	M4 × 0.7	3.5	T15
1.4 2.5 2.6 10.6 10.8	ST4108-60K	M4 × 0.7	3.5	T15
1.2-1.5	ST411-60	M4 × 0.7	3.5	T15
1.5~1.7	ST411-60W	M4 × 0.7	3.5	T15
1.3~1.5 00 00 00 11.2	ST4112-60	M4 × 0.7	3.5	T15
2.0-2.2 2.0-2.2 11.5	ST412-60	M4 × 0.7	3.5	T15
1.6	ST4125-60B	M4 × 0.7	3.5	T15

Shape	Part No.	М	Torque N·m	Wrench
12~1.3	ST413-60	M4 × 0.7	3.5	T15
1.6	ST413-60H	M4 × 0.7	3.5	T15
2.0-2.2	ST414-60	M4 × 0.7	3.5	T15
1.2~1.5	ST415-60	M4 × 0.7	3.5	T15
23-2.6	ST417-62CBM	M4 × 0.7	3.5	T15
1.2~1.3 8 0.8 7	ST407-86	M4 × 0.7	3.5	T15
1.2~1.3 0.8 8	ST408-86	M4 × 0.7	3.5	T15



			C	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.0~1.2 8 8 0 1	ST411-90	M4 × 0.7	4	T15
1.8~2.0 Se Se 12	ST412-92	M4 × 0.7	3.5	T15
1.5~1.8 0.8 12	ST4512-43	M4.5 × 0.75	5	T20
1.8-2.0	ST45095-55	M4.5 × 0.75	5	T20
1.8-2.0	ST4510-60	M4.5 × 0.75	5	T20
2.0	ST45143-60	M4.5 × 0.75	5	T20
2.0	ST5106-40	M5 × 0.8	5	T20

Shape	Part No.	М	Torque N·m	Wrench
2.0	ST511-43	M5 × 0.8	5	T20
2.0 2.0 2.0 2.0 2.0 3.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4	ST515-43	M5 × 0.8	5	T20
2.2-2.5 © 0.8 2.5	ST525-43	M5 × 0.8	6	T20
1.5~1.8	ST509-60	M5 × 0.8	5	T20
1.5~1.8	ST510-60	M5 × 0.8	5	T20
1.9-2.1 1.9-2.1 1.9-11	ST511-60HM	M5 × 0.8	5	T20
1.5~1.8 2 3 11.5 11.5	ST5115-60	M5 × 0.8	5	T20



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.5~1.8 0.7 12	ST512-60	M5 × 0.8	5	T20
1.8~2.0 1.8~2.0 1.8~2.0	ST5126-60	M5 × 0.8	5	T20
1.5~1.8 0.7 13	ST513-60	M5 × 0.8	5	T20
1.5~1.8	ST515-60	M5 × 0.8	5	T20
1.5~1.8	ST516-60	M5 × 0.8	5	T20
1.7~1.9 1.3 13.2	ST5132-61	M5 × 0.8	5	T20
1.8~2.0 1.8~2.0 1.36 17	ST517-61	M5 × 0.8	5	T20

Shape	Part No.	М	Torque N·m	Wrench
2.4 2.4 11.3 10	ST510-63P	M5 × 0.8	5	T20
1.5~1.6	ST511-63	M5 × 0.8	5	T20
2.4 \$\int_{\infty}^{\infty} \begin{pmatrix} 2.4 \\ \int_{\infty} \end{pmatrix} \\ \int_{\infty}	ST5115-63P	M5 × 0.8	5	T20
2.4	ST512-63P	M5 × 0.8	5	T20
1.5~1.8	ST513-63P	M5 × 0.8	5	T20
2.4 1.3 13	ST513-63PH	M5 × 0.8	5	T20
2.4	ST515-63P	M5 × 0.8	5	T20



			C	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
2.4 2.4 11.3 18	ST518-63	M5 × 0.8	5	T20
1.7 8 8 10.8	ST511-90	M5 × 0.8	5	T20
3.6~1.8 0.8	ST515-90	M5 × 0.8	5	T20
1.1~1.3 S	ST511-91A	M5 × 0.8	5	T15
1.8-2.0 S 2 2.15	ST512-92	M5 × 0.8	5	T20
2.5 2.5 11.4 12.1	ST6121-60	M6 × 1.0	7	T25
2.1 2.1 10.9 15.5	ST6155-60	M6 × 1.0	7	T25

Shape	Part No.	М	Torque N·m	Wrench
1.9 00 00 00 10.7 17.2	ST6172-60	M6 × 1.0	7	T20
2.1	ST618-60	M6 × 1.0	7	T25
3.4~3.5	SH618-61	M6 × 1.0	7	H4
2.3~2.5 0.6 0.7 1.74 21.5	ST6215-61	M6 × 1.0	7	T20
3.0~3.2	ST818-61	M8 × 1.25	12	T25
1.6~1.8 1.6~1.8	ST6-32UNC-60	6-32UNC	4	T15
1.5~1.7 0.3 12.5	ST10-32UNF-90	10-32UNF	4	T15

BALL CUTTER SCREW - 14.9

#### **BALL CUTTER SCREW**



			G	Grade - 14.9
Shape	Part No.	M	Torque N·m	Wrench
1.8~2.0	STB5135-40-HS	M5 × 0.5	5	T20
1.8-2.0	STB510-60-HS	M5 × 0.5	5	T20
2 13.9	STB5139-60M-HS	M5 × 0.5	5	T20
1.9-2.1 1.8 15	STB515-60M-HS	M5 × 0.5	5	T20
2.3~2.5 2.3~2.5 1.3 17	STB617-40-HS	M6 × 0.75	7	T25
2.3~2.5 00 9 9 22	STB622-40-HS	M6 × 0.75	7	T30
2.35	STB6167-60M-HS	M6 × 0.75	7	T25

Shape	Part No.	М	Torque N·m	Wrench
2.35	STB721-60M-HS	M7 × 0.75	7	T25
2.8~3.0	STB825-40-HS	M8 × 0.75	12	Т30
2.9 2.5 2.5 2.5	STB825-60M-HS	M8 × 1.0	12	T30

DRILL FIXING SCREW - 14.9



			C	Grade - 14.9
Shape	Part No.	М	Torque N·m	Wrench
°8 25 9	STB209-60M-HS	M2 × 0.4	0.8	Т6
0.9~1.1 Σ 1.5 12	STB2512-60M-HS	M2.5 × 0.45	1.2	Т7
0.9~1.1 Σ 1.5 14	STB2514-60M-HS	M2.5 × 0.45	1.2	Т7
2.0 16	STB316-60M-HS	M3 × 0.5	2	Т9
2.0 19	STB319-60M-HS	M3 × 0.5	2	Т9
1.3~1.5 22	STB3522-60M-HS	M3.5 × 0.6	3.5	T15
1.3~1.5 ⊗ 3.0 24	STB3524-60M-HS	M3.5 × 0.6	3.5	T15

Shape	Part No.	M	Torque N·m	Wrench
1.3~1.5 9 9 9 26	STB426-60M-HS	M4 × 0.7	3.5	T15
1.7~1.9 S S S 28	STB528-60M-HS	M5 × 0.8	5	T20

DRILL FIXING SCREW - 12.9



			(	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
2.9 50 8 10.8	STE3108-61	M3 × 0.5	1.8	Т8
° 50 € 11.8	STE3118-61	M3 × 0.5	1.8	Т8
° 50 0.6 12.8 ≥	STE3128-61	M3 × 0.5	1.8	Т8
0.6 13.8 ≥	STE3138-61	M3 × 0.5	1.8	Т8
± 0.6 14.8	STE3148-61	M3 × 0.5	1.8	Т8
0.6 15.8	STE3158-61	M3 × 0.5	1.8	Т8
1.3 8.9 0.7 16.5	STE4165-61	M4 × 0.7	4	T15

Shape	Part No.	М	Torque N·m	Wrench
1.3 ∞ 8 8 0.7 17.5	STE4175-61	M4 × 0.7	4	T15
1.9 0.8 18.3	STE5183-61	M5 × 0.8	5	T20
1.9 0.8 19.3	STE5193-61	M5 × 0.8	5	T20
° 5 0.8 20 ≥	STE520-61	M5 × 0.8	5	T20
° 5 0.8 21	STE5210-61	M5 × 0.8	5	T20
° 5 0.8 22 1.9	STE522-61	M5 × 0.8	5	T20
1.9 0.8 23	STE5230-61	M5 × 0.8	5	T20

DRILL FIXING SCREW - 12.9



			G	Grade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
2.2 \$6 1 24	STE624-61	M6 × 1.0	7	T25
2.2 6 8 25	STE6250-61	M6 × 1.0	7	T25
2.2 6 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	STE626-61	M6 × 1.0	7	T25
2.2 660 1 27	STE6270-61	M6 × 1.0	7	T25
2.2 5 6 6 2 7.7	STE6277-61	M6 × 1.0	7	T25
2.2 50 68 28.7	STE6287-61	M6 × 1.0	7	T25
0.85 0.65 7	STY207-61	M2 × 0.4	0.8	Т6

Shape	Part No.	М	Torque N·m	Wrench
\$ 0.85 € 0.65 8	STY208-61	M2 × 0.4	0.8	Т6
° 10.85 0.65 9 ≥	STY209-61	M2 × 0.4	0.8	Т6
0.85 0.65 10.5	STY2105-61	M2 × 0.4	0.8	Т6
° 50 € 0.7 12.4	STY25124-61	M2.5 × 0.45	1.2	Т7
1.2 50 88 14.4	STY25144-61	M2.5 × 0.45	1.2	Т7
1.2 0.3 16.4	STY3164-61	M3 × 0.5	2	Т8
° 5 0.3 18.4 ≥	STY3184-61	M3 × 0.5	2	Т8

DRILL FIXING SCREW - 12.9

45



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.2 0.4 20.3	STY3203-61	M3 × 0.5	2	Т8
1.3~1.4	STY4222-61	M4 × 0.7	4	T15
1.3~1.4	STY4242-61	M4 × 0.7	4	T15
1.4 ⊙ 69 0.4 26.2	STY4262-61	M4 × 0.7	4	T15
1.5 ₩ ₩ ₩ 1.5 0.5 28.3	STY5283-61	M5 × 0.8	5	T20
1.5 0.5 30.1	STY5301-61	M5 × 0.8	5	T20
1.5 8 0.5 34	STY534-61	M5 × 0.8	5	T20

Shape	Part No.	M	Torque N·m	Wrench
°5 0.5 38.3	STY6383-61	M6 × 1.0	7	T20
°5 0.5 43 ≥	STY643-61	M6 × 1.0	7	T20

CLAMP SCREW - 12.9

#### **CLAMP SCREW**



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
0.7 10	CT3510-60	M3.5 × 0.6	3	T15
2.0~2.1 0.85 13.1	CT45131-60	M4.5 × 0.75	5	T20
0.85 13.1 1.9~2.1 0.85 13.1 2.0 1.9~2.1	CT45131-60H	M4.5 × 0.75	5	T20
2.0~2.2	CT515-60	M5 × 0.8	5	T20
2.2~2.5 0.9 21.2	CT6212-60	M6 × 1.0	7	T25
\$2 8.2 15	CH515-120	M5 × 0.8	3.5	H2.5
w 9 19	CH619-120	M6 × 1.0	4.5	Н3

Shape	Part No.	M	Torque N·m	Wrench
3.5 25	LHK425	M4 × 0.7	3.3	H2.5
3.5	LHK526	M5 × 0.8	5	Н3
3.5	LHK532	M5 × 0.8	5	Н3
3.5 4.5 37.5	LHK6375	M6 × 1.0	7	H4
3 25.8	MH6258M	M6 × 1.0	7	Н3
4.2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	MH630M	M6 × 1.0	7	H4
2.5	CH4175	M4 × 0.7	3.3	H2.5

CLAMP SCREW - 12.9

#### **CLAMP SCREW**

			G	irade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
3.5 21.5	CH5215M	M5 × 0.8	5	НЗ
4.5 26.5	CH6265M	M6 × 1.0	7	H4
1.5	CT4128	M4 × 0.7	3.5	T15
7.3	CH4095	M4 × 0.7	5.7	H2.5
8 13	CH513	M5 × 0.8	6.4	H2.5
2.5	CH5131	M5 × 0.8	7.7	НЗ

#### **MULTI SCREW**



			G	Grade - 14.9
Shape	Part No.	М	Torque N·m	Wrench
1.8~2.0	LH509BM-HS	M5 × 0.8	-	H2
22-2.5	LH512BM-HS	M5 × 0.8	-	H2
3 16 22	MH622-HS	M6x1.0	8	H5
			C	Grade - 12.9
2.5	MH517	M5 × 0.8	7	H4
3 19 25	MH625M-NYLOK	M6 × 1.0	7.5	Н5
3.5~4	LH6134A	M6 × 1.0	3.3	H2.5
3.5	LH617	M6 × 1.0	3.3	H2.5

MULTI SCREW - 12.9

SCREW

#### **MULTI SCREW**

			G	rade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
21	LH821	M8 × 1.0	5	H3
25	LH825	M8 × 1.0	5	НЗ
27.2	LH10272	M10 × 1.0	7	H4
27.3	LH10273N	M10 × 1.0	7	H4
36	LH1236	M12 × 1.0	8	H5
36	LH1236N	M12 × 1.0	8	H2.H55

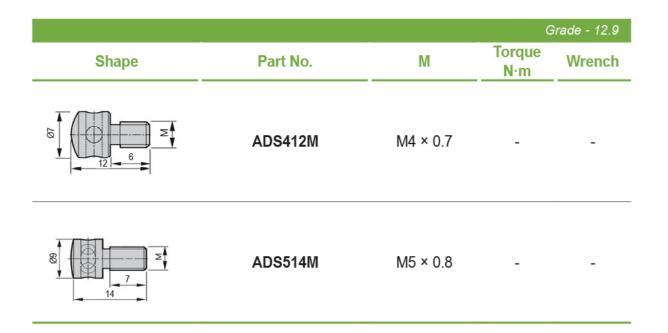
#### **SHIM SCREW**



			G	3rade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
2 8 8 112 7	SHS507F	M₁3.5 × 0.6 M₂5 × 0.5	6	H3.5
2	SHS50865F	M <sub>1</sub> 3.5 × 0.6 M <sub>2</sub> 5 × 0.5	6	H3.5
2.5	SHS609F	$M_14 \times 0.5$ $M_26 \times 0.75$	7	H4
2.5	SHS610F	M <sub>1</sub> 4 × 0.5 M <sub>2</sub> 6 × 0.75	7	H4
2.5	SHS712FM	$M_15 \times 0.8$ $M_27 \times 0.75$	8	Н5
3 29 20 20 1.6 14	SHS814FGM	M <sub>1</sub> 6 × 1.0 M <sub>2</sub> 8 × 0.75	9	Н6

ADJUST SCREW - 12.9

#### **ADJUST SCREW**



#### **LOCATOR SCREW**



			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
1.3~1.5 2.3 3.4 1.6 9.6	LCT3096M	M3 × 0.5	2	Т8
1.9-2.1	LCT5152	M5 × 0.8	5	T20
1.9-2.1	LCT5171	M5 × 0.8	5	T20
4.9	LT8172	M8 × 1.25	7	T25
4.9 22	LT822	M8 × 1.25	7	T25
3.2 8.9 4.9 17.2	LH8172	M8 × 1.25	5	Н3
3.2 8 4.9 22	LH822	M8 × 1.25	5	Н3

WEDGE DOUBLE SCREW - 12.9

#### **WEDGE DOUBLE SCREW**



			G	irade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
2.5 2.5 7 14	WCH514	M5 × 0.8	3.3	H2.5
7 7.5	WCH617	M6 × 1.0	5	Н3
8 8 8	WCH620K	M6 × 1.0	5	НЗ
5 12 8.5 24	WCH624	M6 × 1.0	5	Н3
5 15 27 8.5	WCH627	M6 × 1.0	5	НЗ
7 7 7	WCH7165F	M7 × 0.75	7	H4
9.6 9.6 24	WCH724F	M7 × 0.75	7	H4

Shape	Part No.	M	Torque N·m	Wrench
8 62 17.2	WCH8172F	M8 × 1.0	7	H4
8.5 6.3	WCH8188F	M8 × 1.0	7	H4
8.5 8.5	WCH821F	M8 × 1.0	7	H4
9.5 10.5	WCH824F	M8 × 1.0	7	H4
5 13 32	WCH832F	M8 × 1.0	7	H4
5 6.25 6.25 15.5	WCH8155	M8 × 1.25	7	H4
8 9 20	WCH820	M8 × 1.25	7	H4

#### **WEDGE DOUBLE SCREW**

			G	irade - 12.9
Shape	Part No.	М	Torque N·m	Wrench
5 10 25	WCH825	M8 × 1.25	7	H4
11.5 11.5	WCH830	M8 × 1.25	7	H4
25 10 25 E	WCH625	M6 × 1.0	5	Н3
¥ 4 4 4 12 30 12	WCH630	M6 × 1.0	5	НЗ
13 13 30 13 30 30 30 30 30 30 30 30 30 30 30 30 30	WCH830F	M8 × 1.0	7	H4
≥ 15 15 35 15 15 35 15 15 15 15 15 15 15 15 15 15 15 15 15	WCH1035F	M10 × 1.25	8	H5

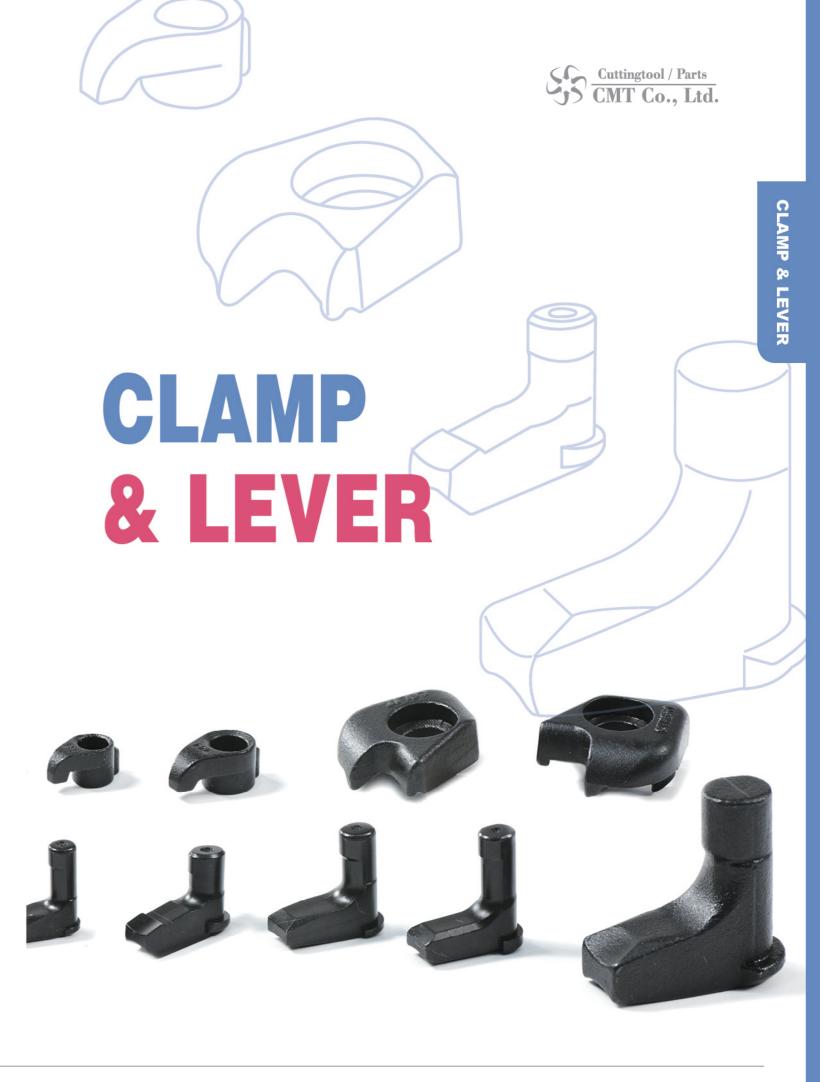
#### SPECIAL SCREW



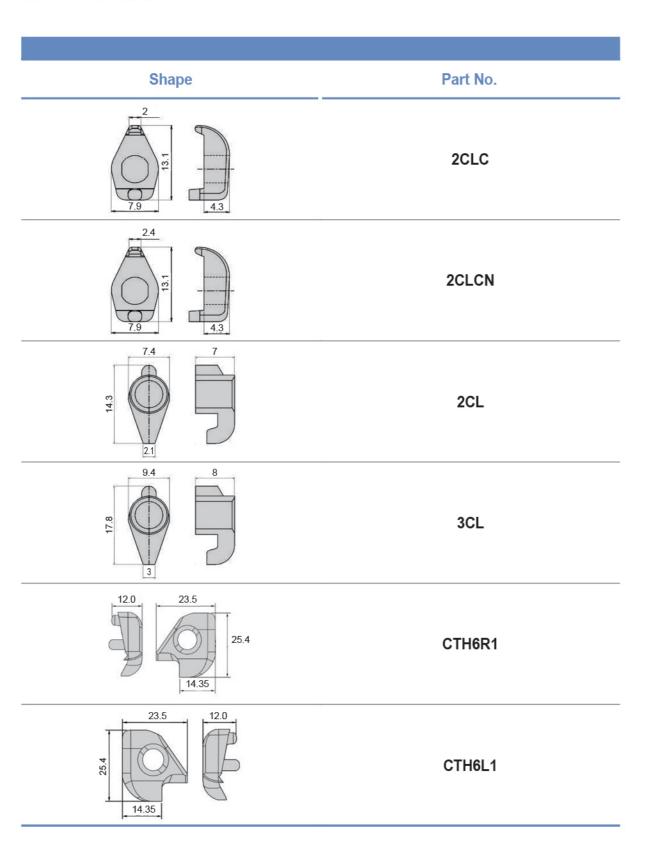
			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
3 10	NHD610	M6 × 1.0	-	НЗ
10	NHD810	M8 × 1.25	-	H4
4.5 17.2	KH4172	M4 × 0.7	-	H2

#### NUT

			G	Grade - 12.9
Shape	Part No.	M	Torque N·m	Wrench
6 7.5	N4075	M4 × 0.7		
6.6	N5083	M5 × 0.8		



#### **CLAMP**



#### **LEVER**



LEVER

Shape	Part No.	Shape	Part No.
2.6	LL2	6 17	LL5
3.1	LL3B	7.5 21 21 XX	LL6
3.7	LL3	8.5	LL8
4.7	LL4	3.1 9 7.85	LL3C
4.8	LL4TT	3.2	LL3D
4.7	LL4B	9.95	LL4A





#### **SHIM**



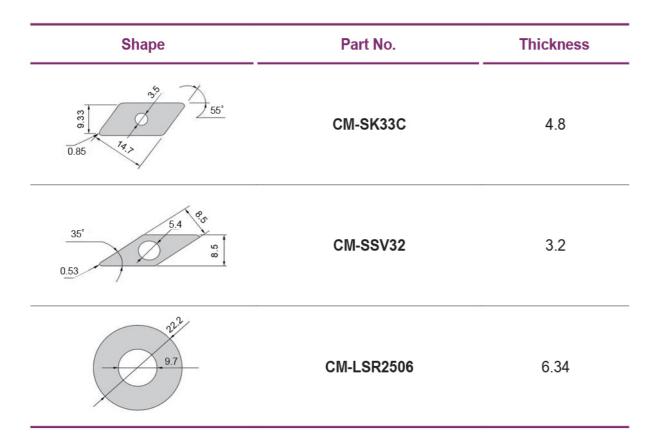
Shape	Part No.	Thickness
6.62 E 0.8	CM-LSD42	3.17
6.9	CM-SD42	3.17
0.8	CM-LST31.8	2.7
0.8	CM-LST42	3.17
0.5	CM-LST53	4.76
6.9	CM-SC42	3.17
6.6 80°	CM-LSC42	3.17

Shape	Part No.	Thickness
9.7 80°	CM-LSC63	4.75
1.0 24.5	CM-LSC83	4.75
12.65	CM-SS42	3.17
11.82	CM-LSS42	3.17
96. 17.95	CM-LSS63	4.75
24.6	CM-LSS84	6.35
0.85	CM-CSK1604L/R	4.8

SHIM

# SHIMPIN

### SHIM





Shape	Part No.	Shape	Part No.
0.3	LS3	0.5	LS5TT
7.0	LS4	11.1	LS6
5.8	LS4TT	11.0	LS6TT
8.5	LS5	12.0	LS8TT

66





#### **FLAG-TYPE WRENCH**

Shape	Part No.	Torx size
15 35	FT-T06	T6
15 35	FT-T07	T7
95.5	FT-T08	Т8
19 43 0° Ø	FT-T09	Т9
19 43	FT-T10	T10
27 45	FT-T15	T15
22 45	FT-T20	T20







53	22	45	WT-T20	T20
		8		

WING-TYPE WRENCH

WRENCH

WRENCH

T-TYPE WRENCH

#### **DRIVER-TYPE WRENCH**

Shape	Part No.	Torx size
96 14.5	Micro 6	Т6
80 65	DT-T06N	T6
80 65	DT-T07N	Т7
80 65	DT-T08N	T8
90 70	DT-T09N	Т9
90 70	DT-T10N	T10
100 100	DT-T15N	T15
100 100	DT-T20N	T20

#### **T-TYPE WRENCH**



Shape	Part No.	Torx size
76	TTS-T20	T20
76	TTS-T25	T25
127	TTL-T15	T15
127	TTL-T20	T20
76.5 第	TTS-H3.0	Н3
85	TTS-H4.0	H4
91.5 91.5	TTS-H5.0	H5

#### **EXCHANGEABLE WRENCH**

Shape	Part No.	Torx size	Shape	Part No.
2.0	WH2.0L	H2	103 H4	DT-G4 (handle)
63 2.5	WH2.5L	H2.5	H6	DT-G6 (handle)
65	WH3.0L	НЗ	23 92	BIT-T□ BIT-TP□
88	WH3.5L	H3.5	23 92	BIT-T□ BIT-TP□



L-TYPE WRENCH

