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ST-ST SERIES

SPLINE-TYPE TORQUE MULTIPLIERS

OPERATION MANUAL

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VIDEO

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ATTENTION

◆ Please use within the torque range of the torque wrench and multiplier. In order to extend the service life of the tool, it is best to use within 80% of the maximum torque output value.

◆ Do not use extended sleeves as much as possible. The output component can cause danger. It is necessary to use an extended sleeve and observe the status of the multiplier. If there is any abnormality, stop using it.

◆ When tightening or disassembling, pay attention to whether the reaction arm is firmly fixed.

◆ There is a certain degree of danger when working with the multiplier upside down at height.

◆ Multipliers are precision tools that must not be strongly impacted or knocked. Otherwise, it will damage the tool

INTRODUCTION

In planetary gear systems, torque is input and output via a sun gear. The rotation is driven by three or four planetary gears combined with the sun gear. The circumferential gear within the multiplier housing engages the inner planet gear, but the direction of rotation is opposite relative to the inner planet gear rotation.

The reaction arm prevents rotation of the outer casing integral with the circumferential gear, and rotates the planetary gear around the sun gear to drive the driving square to rotate, thereby outputting torque.

It is suitable for large bolt torques that cannot be used with external pneumatic or electric tools in many cases but cannot be controlled by ordinary manpower wrenches.

A complete set of torque multiplier tools includes: Mechanical Torque Wrench, Torque Multiplierand Socket.
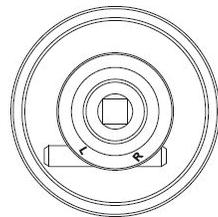
1. Insert the Output Square Drive into a Socket, rotate Reaction Bar to fix it without moving,
2. Put the Mechanical Torque Wrench into the Input Square Drive, now the device is ready for using.
3. How to set the input value: Take Z type M10 as example, torque ratio is 4.5, if output value need to reach 900Nm, input value of torque wrench need set to 200Nm (900/4.5)

Anti-bounce safety devices:

1. The multiplier has a bulletproof lock function. The main function of a bulletproof lock is to prevent the internal spring from rebounding, allowing all forces to be applied to the bolts and nuts. Before using the product, the bulletproof lock needs to be set in the correct position.
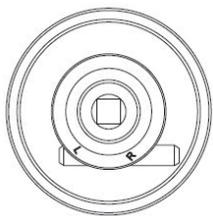
Operate the bulletproof lock position clockwise.

Operate the bulletroof lock position counterclockwise.

2. Before applying torque, correctly set the position of the bulletproof lock as shown in the figure above.
3. To unload the multiplier, first slightly overload the torque wrench until the bulletproof lock can be pushed, and slowly turn the torque wrench until the multiplier can be removed..
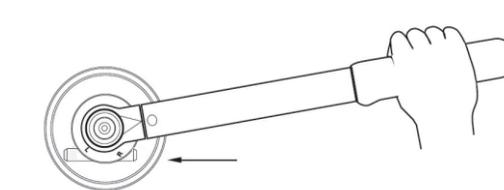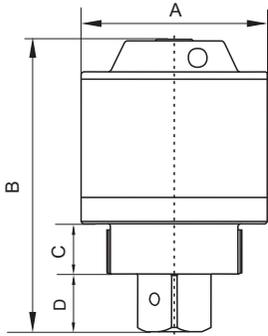
3. 1 Loading torque wrench
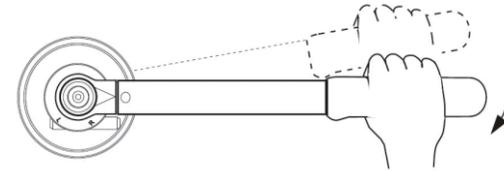
3. 2 While loading the torque wrench, push the bulletproof lock in the opposite direction.
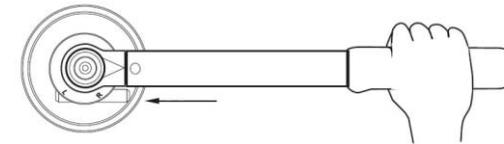
3. 3 Continue to load the torque wrench until the multiplier can be removed.

SPECIFICATION

Code	Number of teeth	Modulus	Pressure angle
IST−ST2000	39	1.5	
IST−ST3500	34	2	30°
IST−ST5500	43	2	
IST−ST7500	45	2	

Code	A	B	C	D
IST−ST2000	82	135	18	26
IST−ST3500	98	150	25	26
IST−ST5500	115	180	29	39
IST−ST7500	127	198	34	39

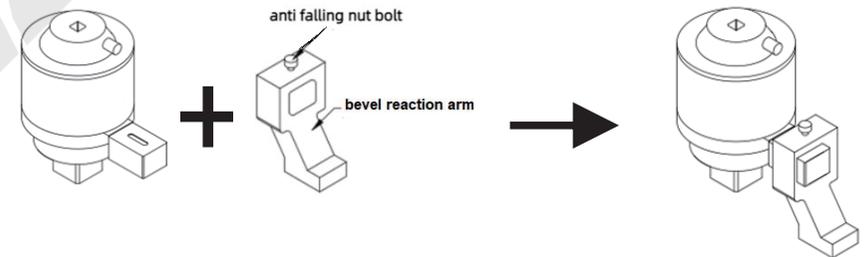| Code	IST-DT2000	IST-DT3500	IST-DT5500	IST-DT7500
Square socket	1/2"	1/2"	1/2"	1/2"
Square driver	1"	1"	1 1/2"	1 1/2"
Torque ratio — plate	1:13.3	1:16	1:21.5	1:24
Torque ratio — bevel	1:12	1:15	1:18.5	1:20
Weight(kg)	3.2	4.8	7.8	10.8
Capacity(N.m)	2000	3500	5500	7500

INSTALLATION
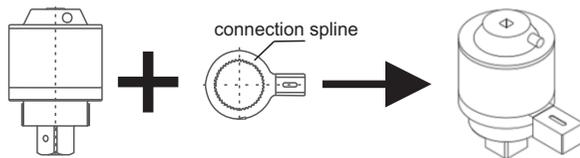
Install connection splines
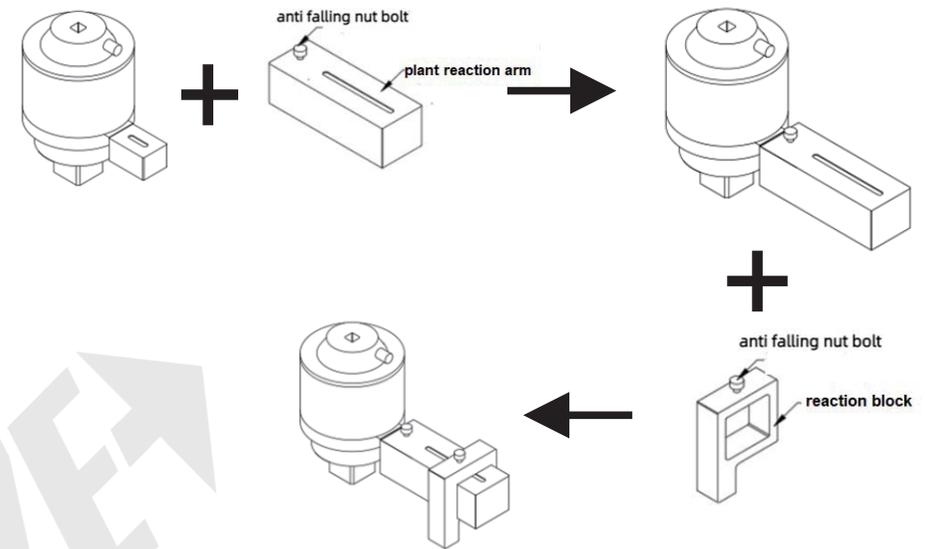
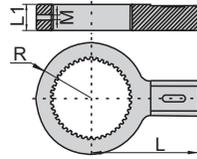Schematic diagram of plate type installation of torque multiplier

Schematic diagram of bevel type installation of torque multiplier

MAINTENANCE

- The internal oil of the multiplier is periodically changed every year.
- Do not damage the appearance of the multiplier.
- Non-professionals should not attempt to disassemble or repair.

OPTIONAL

CONNECTION SPLINE (optional)

Code	Dimension (mm)			
	R	L	L1	M
IST-ST2000-C1	41	78	18	5
IST-ST3500-C2	49	95	23	5
IST-ST5500-C3	58	112	28.5	6
IST-ST7500-C4	63.5	123.5	29	6

REACTION BLOCK (optional)

Code	Dimension (mm)					
	L	L1	L2	L3	L4	M
IST-ST2000-R1	53.5	52	39.5	15	18	4
IST-ST3500-R2	66	58	48	18	20	5
IST-ST5500-R3	94.5	73	65	22	25	6
IST-ST7500-R4	98	83	72	28	25	8

PLATE REACTION ARM (optional)

Code	Dimension (mm)			
	L	L1	L2	M
IST-ST2000-P1	120	38	25.5	4
IST-ST3500-P2	145	42	32	5
IST-ST5500-P3	150	53	45	6
IST-ST7500-P4	175	60	49	8
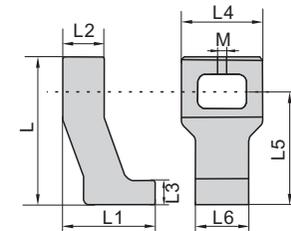
BEVEL REACTION ARM (optional)

Code	Dimension (mm)							
	L	L1	L2	L3	L4	L5	L6	M
IST-ST2000-B1	85	51	18	14	44	60	25	4
IST-ST3500-B2	87.5	52	20	15	50	67	30	5
IST-ST5500-B3	110	70	30	16	59	86	35	6
IST-ST7500-B4	123	78	35	20	68	94	45	6