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Industrial Tools Pvt. Ltd

Where Quality Counts & Workmanship Lives

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HAND TORQUE MULTIPLIERS



Tulex Torque Multiplier is a heavy duty tool used to increase the Torque produced by Torque Wrenches. They have been developed and designed to meet high torque requirements keeping in view space restrictions in Torque Wrench applications. Torque Multipliers are suggested for either tightening of high tensile bolts or loosening rusty and frozen nut bolts.

Tulex Torque Multipliers are machined for high precision. The Gear units are designed for multiplication of input torque. Multipliers are recommended to be used where very high torque (over 100 Kg Mtr) are required to minimise input effort. The use of Torque Multipliers reduces the manpower required as well as operator fatigue. The Multiplier has a gear mechanism by which the Torque applied on the input side is multiplied in a particular ratio. Tulex Multipliers are available in Multiplication Factor of 1:5 and 1:25. Torque Multiplier covers Torque requirements from 170 kg. mtr. to 965 kg. mtr. (1250 lb. ft. to 7000 lb. ft.)

Applications: Tulex Torque Wrenches are recommended to be used at the input end to achieve an extremely calculated output Torque so the fluctuation of efficiency remains extremely small over a long period. It is extensively used in large Petrochemicals and Refineries.

Caution to Exercise:
Periodic re-calibration may be necessary to ensure accuracy.

TULEX INDUSTRIAL TOOLS PVT. LTD.

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OPERATING INSTRUCTIONS

1) The Hand Torque Multiplier is a precision tool that will exactly multiply the input Torque by the specified ratio. To operate the Hand Torque Multiplier you will need the following.

- a) Impact Sockets
- b) Torque Wrench

2) When the Hand Torque is in operation the reaction plate rotates in the opposite direction to the output square drive & must be allowed to rest squarely against a solid object surface adjacent to the bolt to be tightened.

3) Do not modify the standard Reaction plates or make special reaction plate as it may result in premature wear or damage to the wrench output drive.

Setting Torque for Bolt Tightening

- 4) Establish the correct Torque figure for the bolt from manufactured instructions or by calculations.
- 5) Divide the required Torque by the ratio of the multiplier. This gives the input Torque.
- 6) Select a suitable Torque Wrench for the input torque. The wrench should be of high quality & regularly calibrated.

Setting Torque for Bolt Loosening.

- 7) To ensure that the multiplier is not overloaded, it is desirable to use a torque wrench even for bolt Loosening.
- 8) Divide the multiplier maximum output by the gear ratio. This gives the max output by the gear ratio. This gives the max input torque.
- 9) Select a suitable Torque Wrench for the input torque.

Note: Some Torque wrenches will not click in the anticlockwise direction.

- 10) Fit the multiplier with the correct size of impact socket to suit the bolt to be tightened.
- 11) Fit the multiplier to the bolt with the reaction plate adjacent to the reaction point.
- 12) Fit the Torque wrench to the multiplier, and set the Input Torque.
- 13) Operate the Torque wrench in the normal manner until it clicks.

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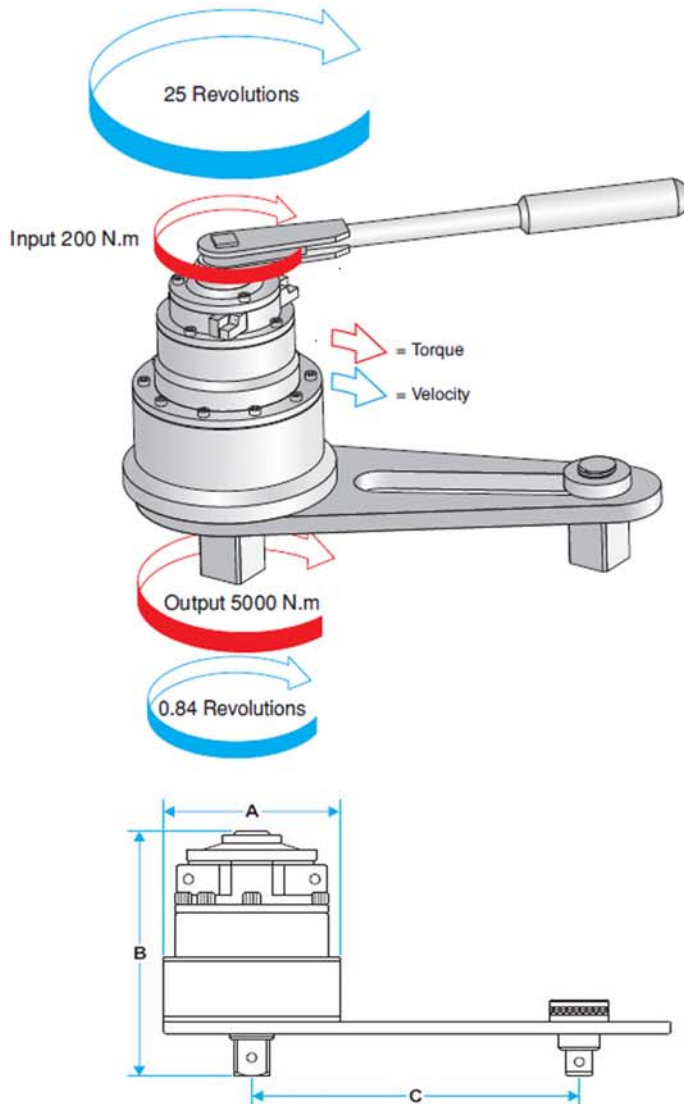
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Anti Wind-Up Ratchet (AWUR) :

With any high ratio gearbox (25:1 or more) a certain amount of wind-up (spring) has to be taken up before any useful tightening work is applied to the nut.

Each time the input device is released, the wind-up will rotate it back against the direction of operation.

The Anti Wind-Up Ratchet retains all of the wind-up forces as they are created, with the following benefits:

The torque input device can not fly backwards against the direction of operation if it is suddenly released.

Without an Anti Wind-Up Ratchet, it will often be necessary to continue to make 360 sweeps with the torque input device otherwise the multiplier will 'unwind'. However, obstructions will often make this impossible.

With an Anti Wind-Up Ratchet fitted, the multiplier becomes locked onto The nut because the reaction plate is held hard against the reaction point. This means that even used upside down, the multiplier will support it's own weight.

Safety Note: Additional support is recommended as failure in the bolt, socket or multiplier will release the wind-up forces and cause the multiplier to drop.



Hand Torque Model No.	Max. Output Torque			Bolt Capacity		Multiplication Factor	Female Input Square	Male Output Square	Major Dia (A)	Depth (B)	Recommended Torque Wrench Part No.	Weight With Reaction Plate		C	C
	Lb Ft.	Nm	Kgf. M	inch	mm							Kg		Min	Max
TUTM-1	1250	1700	170	1.1/8	28	5	1/2	3/4	115	85	TUT-250C	4.50			
TUTM-2	1250	1700	170	1.1/8	28	5	3/4	1	115	93	TUT-250C	5.00			
TUTM-2/25	1250	1700	170	1.1/8	28	25	1/2	1	115	151	TUT-50C	7.00	75	164	
TUTM-5	2000	2700	275	1.3/8	35	5	3/4	1	136	135	TUT-500D	8.00	89	260	
TUTM-5/25	2000	2700	275	1.3/8	35	25	1/2	1	136	163	TUT-100C	11.00	89	260	
TUTM-6	2500	3400	345	1.1/2	38	5	3/4	1.1/2	136	149	TUT-700E	8.50	105	260	
TUTM-6/25	2500	3400	345	1.1/2	38	25	1/2	1.1/2	136	176	TUT-100C	11.50	105	260	
TUTM-7	4500	6000	622	2.1/2	62	5	3/4	1.1/2	168	174	TUT-1000E	15.50	115	310	
TUTM-7/25	4500	6000	622	2.1/2	62	25	1/2	1.1/2	168	226	TUT-250C	19.50	115	310	
TUTM-9/25	7000	9500	965	3	75	25	3/4	1.1/2	195	256	TUT-500D	27.00	150	350	
TUTM- 11/25	11060	15000	1500	3.1/2	89	25	3/4	2.1/2	220	360	TUT-500D	52.00	164	480	
TUTM-13/125	35000	47500	4845	4.1/2	114	125	3/4	2.1/2	315	550	TUT-500D	135.00	164	480	

TULEX WARRANTS TO THE ORIGINAL PURCHASER THAT THE COMPANY'S PRODUCTS ARE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS

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