# E-Series, Manual Torque Multipliers ENERPAC.





▼ Shown from left to right: E291, E393, E494



- High-efficiency planetary gear sets achieve high output torque from low input torque
- Operator protected by anti-backlash device
- Torque multiplier accuracy ± 5%
- Reversible, tighten or loosen bolts
- Reaction bar or reaction plate style
- Angle-of-turn protractor standard on E300-Series models
- Reaction plate models offer increased versatility with reaction point locations
- E300 and E400-Series have replaceable shear drives, providing overload protection of internal power train
- One replacement shear drive is included with each E300 and E400-Series models.



Enerpac Reaction Bar Torque Multiplier E393 used to manually torque bolts up to 4300 Nm.

# **Accurate, Efficient Torque Multiplication**

When accurate make-up or break-out of stubborn fasteners requires high torque



# **Typical Torque Multiplier Applications**

- Locomotives
- Power plants
- Pulp and paper mills
- Refineries
- Chemical plants
- Mining and construction
- Off-road equipment
- Shipyards
- Cranes.

# **▼ SELECTION CHART**

Torque Multiplier Type		l Torque put	Model Number	
	(Nm)	(Ft.Ibs)		
Reaction	1015	750	E290PLUS	
	1355	1000	E291	
Bar	1625	1200	E391	
Multiplier	2980	2200	E392	
	4340	3200	E393	
	2980	2200	E492	
Reaction	4340	3200	E493	
Plate	6780	5000	E494	
Multiplier	10845	8000	E495	



# **Manual Torque Multipliers**



### **Manual Torque Multipliers**

Enerpac manual torque multipliers provide efficient torque multiplication in wide clearance

applications and when external power sources are not available.

Manual torque multipliers are used in most industrial, construction, and equipment maintenance applications. Hydraulic torque wrenches are better suited for tight tolerance, flange and repetitious bolting applications.

#### **Use Reaction Bar Models:**

- · Where space is limited,
- Where multiple reaction points are available,
- when portability is desirable.

#### **Use Reaction Plate Models:**

- Above 4300 Nm output torque,
- On flanges and applications where neighbouring bolt or nut is available to react against
- When extreme reaction forces are generated.





Nominal Torque Output:

1015 - 10.845 Nm

Torque Ratio:

3:1 - 52:1

**Output Ratio Accuracy:** 

±5%



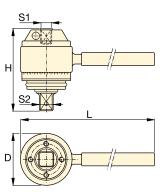
#### ■ Selector Pawl

Models with anti-backlash protection have directional selector pawls. Set the pawl for clockwise or counter-clockwise rotation.



# Shearable Square Drive

Provides overload protection on E300- and E400-series multiplier's power train by shearing when the rated capacity of the tool is exceeded. Internal shear pin prevents tool from falling off bolt.

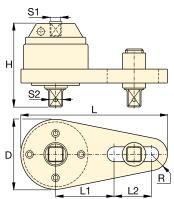


Reaction Bar Type 1)



# ▲ Angle-of-Turn Protractor

E391, E392 and E393 models include an angle-of-turn protractor (scale) to tighten fasteners using a "torque turn" method. Allows accurate measuring a specific number of degrees of rotation.



Reaction Plate Type 1)



### **CAUTION!**

Never use impact air tools for power driving torque multipliers. Torque multiplier drive train damage will occur.



# **Hydraulic Torque Wrenches**

Enerpac offers a complete range of square drive and hexagon cassette torque wrenches.

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# **BSH-Series Sockets**

Heavy-Duty Impact Sockets for power driven torqueing equipment.

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	Input Torque <sup>2)</sup>		Torque Input Ratio Female		Output Male Square Drive		Over- Anti- load Backlash	Dimensions (mm)						Ī	Model Number	
	(Nm)	(Ft.lbs)		Square Drive S1 (inch)	S2 (inch)	Replaceable Shear Drive Model Nr.	protection		D	Н	L	L1	L2	R	(kg)	
	338	250	3:1	1/2	3/4	_	No	No	71	84	218	_	_	-	1,8	E290PLUS
	451	333	3:1	1/2	3/4	_	No	No	71	84	442	_	_	_	2,5	E291
	271	200	6:1	1/2	3/4	E391SDK	Yes	No	100	102	498	-	_	-	6,3	E391
	219	162	13,6 : 1	1/2	1	E392SDK	Yes	Yes	103	146	498	-	-	-	6,9	E392
	234	173	18,5 : 1	1/2	1	E393SDK	Yes	Yes	103	165	498	-	_	_	8,3	E393
	219	162	13,6 : 1	1/2	1	E392SDK	Yes	Yes	124	140	356	140	124	32	7,8	E492
	234	173	18,5 : 1	1/2	1	E393SDK	Yes	Yes	124	163	356	140	124	32	10,6	E493
	256	189	26,5 : 1	1/2	1½	E494SDK	Yes	Yes	143	222	378	178	89	42	15,4	E494
	208	154	52 : 1	1/2	1½	E495SDK	Yes	Yes	148	273	386	178	89	48	22,8	E495

<sup>1)</sup> E200 and E400-series do not have an Angle-of-Turn Protractor (scale).

User must verify manual torque wrench accuracy prior to use to ensure accurate final output torque.