

# EYIN SPIRIT

**LATEST  
DEVELOPMENT**

## **OIL PULSE WRENCH**

Achieving highest torque accuracy for industrial fastening application.



**EYP-100AS**



**EYP-80AS**

### **STRUCTURE OF PULSE UNIT & PULSE MECHANISM**

A series of EYP model pulse wrench presents highest efficiency with simple mechanism of pulse. Oil is filled everywhere inside of the Cage which is combined with built-in Shank-anvil. Shank-anvil has two Pistons that are located 180°opposite. Each Piston is fitted on with a Roller which is always contacting inside wall of the Cage. There are two mounted portions that are protruded from inside wall of the Cage. Those two mounts are located 180°opposite, also. Shank-anvil is not directly connected with the airmotor, but the Cage is directly connected with it.

When Shank-anvil is under no load ie., free running, it is rotating together with the Cage. Once Shank-anvil is on load, it begins to stop rotating but the Cage keeps rotating. Then, two mounted portions in the Cage begin to push a pair of Rollers together with the Pistons towards the center of the Cage and then, this movement of pistons forms a pair of sealed chambers in the Shank-anvil where oil flow will be intercepted. After oil flow is intercepted, oil in the chambers where a pair of Pistons are moving will be compressed and will generate pulse in a moment to transfer energy from the Cage to the Shank-anvil.

#### **Patent Numbers:**

U.S.A.: US 7,032,685 B2

Japan: 第4008865号

China: ZL 200410058866.4

**PEISIN**

## FEATURES OF EYP MODEL - PULSE WRENCH

New EYP model pulse unit recently developed has a pair of pistons. Oil is filled in the cage and shall be efficiently compressed in the sealed chambers in the shank-anvil. A pair of pistons and a pair of balls-steel will form a pair of sealed chambers in the shank-anvil. (Patented)

This simple mechanism helps to lower the number of parts required, and makes it easy to perform repair work. EYP model pulse unit simply generates single pulse per single rotation without using any mechanical cams.

Shank-anvil has a pair of pistons, and each piston is located 180°opposite. There are two mounted portions in the cage that are protruded from inside wall of the cage. These protruded mounts in the cage are corresponding with a pair of pistons. (Patented)

Shut off mechanism to intercept supply-air is directly related to main valve. After reaching pre-set torque, supply-air shall be automatically shut off. (Patented)

Shut off mechanism provides most reliable and stable performance in terms of torque accuracy even if the supply-air pressure should be 0.4MPa.

Oil seals are to intercept lower pressure oil. This mechanism helps to extend life of seals much longer than the case as oil seals are to intercept higher pressure oil.

Relief valve to adjust range of torque is positioned in the center bore of shank-anvil, which provides easiest handling for torque adjustment.

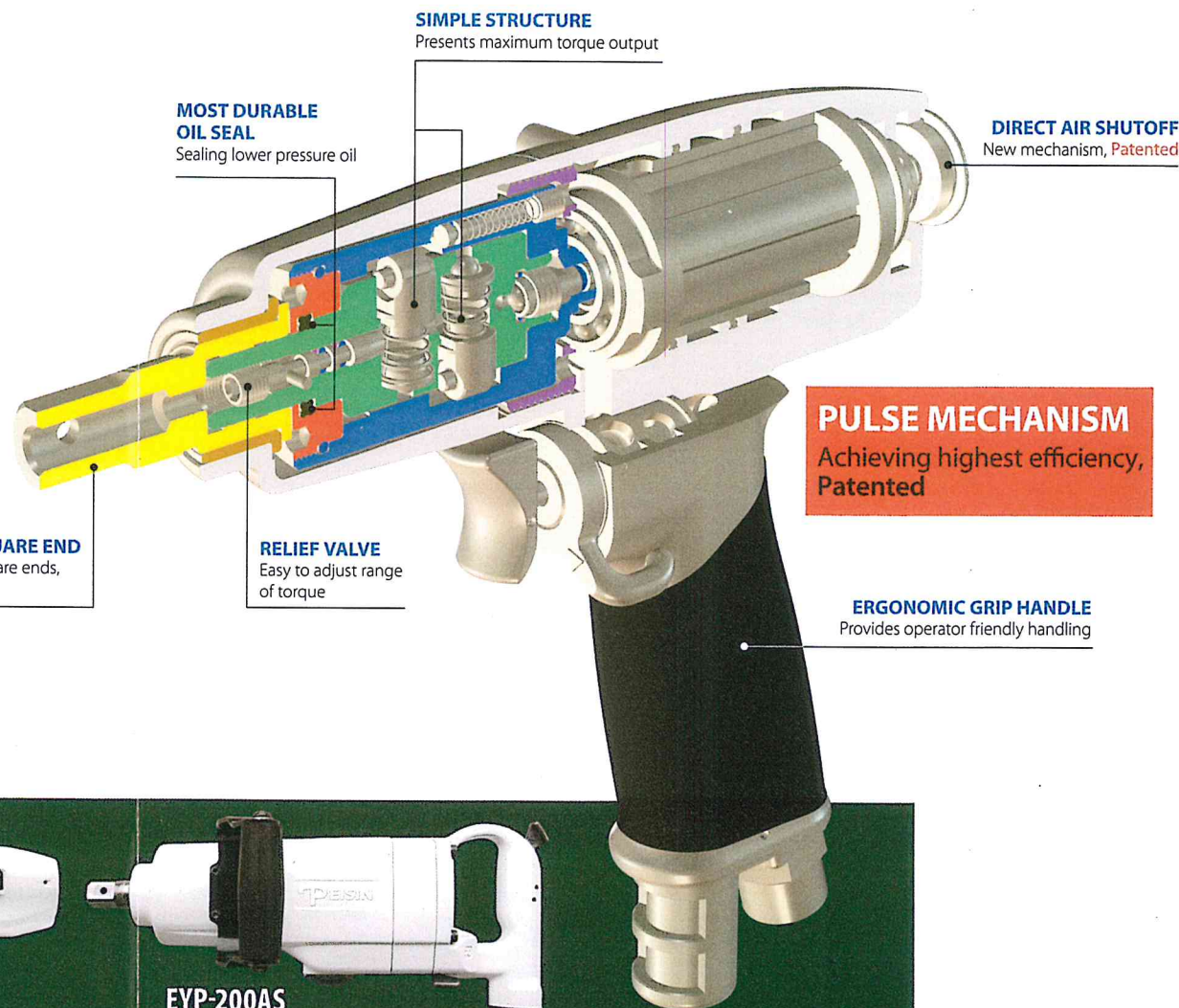
Shank-anvil has two-pieces structure consisting of the cap-anvil which forms square end and the body which forms substance to generate pulse. (Patented)

This structure is adopted on the EYP-80AS, EYP-300AS and EYP-380AS models.

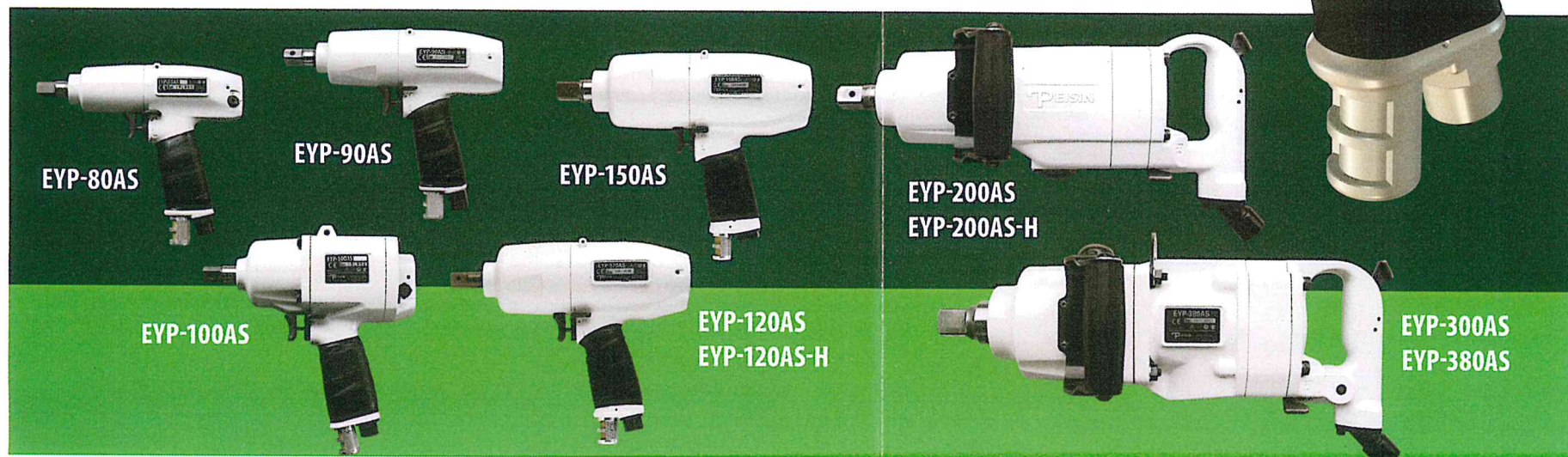
In case of the EYP-80AS, for example, the square end can be selected among 3/8 inch, 1/2 inch and the one to accept bit-driver. Changing cap-anvils can be easily executed on the job site without using any special tools.

Ergonomic requirements like less vibration or less reaction force are realized on the EYP model pulse wrenches. To enhance these features, the grip-handle is covered with the same rubber that is used on the tennis racket. This rubber grip is supplied as a standard equipment to help to reduce burden on wrist, arm and shoulder of the operator.

# EYP-80AS OIL PULSE WRENCH



## LINEUP



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## SPECIFICATIONS

	Bolt Size	Torque Range		RPM under no Load		Overall Length	Weight	Size of Square end	Size of Air Inlet	I.D. of Hose	Air Consumption under no Load
		(Nm)		(RPM)							
		0.4Mpa	0.6Mpa	0.4Mpa	0.6Mpa						
EYP-80AS	M6~M8	15~30	20~35	6700	7200	189,187	1.1	1/2, 3/8	PT1/4	φ 8.5	0.6
EYP-90AS	M10~M12	30~60	30~60	5000	5500	201	1.4	1/2	PT1/4	φ 8.5	0.6
EYP-100AS	M10~M12	55~75	60~80	4500	5000	195	2.2	1/2	PT1/4	φ 8.5	0.65
EYP-120AS	M14	70~120	70~120	3000	3500	234	2.7	1/2	PT1/4	φ 8.5	0.7
EYP-120AS-H	M14	100~150	100~150	3000	3500	234	2.7	1/2	PT1/4	φ 8.5	0.7
EYP-150AS	M16	150~200	150~200	2300	2600	268	4.1	3/4	PT3/8	φ 9.5	0.75
EYP-200AS	M18~M20	200~300	200~300	3500	4000	393	7.9	3/4	PT1/2	φ 9.5	1.4
EYP-200AS-H	M18~M20	300~400	300~400	3500	4000	393	7.9	3/4	PT1/2	φ 9.5	1.4
EYP-300AS	M20~M22	400~500	400~500	4200	4800	410	10.3	1	PT1/2	φ 12	1.6
EYP-380AS	M20~M22	500~600	500~650	3300	4000	425	10.5	1	PT1/2	φ 12	1.8

### HOW TO SELECT APPROPRIATE TOOL MODEL?

Before selecting appropriate tool model for the fastening application, considerations to be taken concerning target torque, bolt size, type of joint etc. Generally speaking, type of joint can be defined as two categories; one is high torque joint (hard joint) and the other one is low torque joint (soft joint) in view of the relations between the fastening torque and the rotating angle after the snag point. (Reference to ISO5393.) Please select appropriate tool model, considering weight of the tool, target torque, target time to fasten, accuracy of torque etc., according to your requirements. By adjusting positioning of the relief valve, you can obtain most suitable tool conditions to satisfy your objectives.

### BRIEF INFORMATION ABOUT SPECIFICATIONS

<b>Bolt Size</b>	For your reference, appropriate bolt size to be fastened is indicated according to a standardized calculation table.
<b>Torque Range</b>	Indicated figures of torque range are prepared according to the inter-company standard of Eisin and may be different from the figures that can be obtained by using a torque wrench on the actual work piece. Please select tool model based on the actual applications on the job site.
<b>RPM under no Load</b>	RPM shows number of rotations per minute when the tool runs under no load. Permissible allowance is implied in the individual case.
<b>Overall length</b>	shows length of the tool from the square end of the shank to the opposite end of the tool body. It does not include any accessories like sockets, inlet couplers, hanging hooks, etc.
<b>Weight</b>	Permissible allowance is implied in the figures of weight. It does not include weight of any accessories.
<b>Size of Square end</b>	It shows the size of square end of the shank-anvil.
<b>Size of Air Inlet</b>	It shows the size of inside diameter of the air inlet on the side of the tool body. It is basically female thread.
<b>I.D. of Hose</b>	It shows proper size of the inside diameter of recommended air hose to be used. Other than the recommended hose size, the tool may not generate nominal performance. Please take note of this importance.
<b>Air Consumption under no Load</b>	It shows the amount of air that the tool consumes in a minute when it runs under no load.



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