

TORERO®

OIL PULSE TOOLS &
TORQUE MEASUREMENT EQUIPMENT



2025A

Chu Dai Industrial Co., Ltd. is the leading and first manufacturer of oil-pulse tools in Taiwan . Since its establishment in 1997, Chu Dai has been investing intensive endeavors into providing advanced machinery technology for a better tomorrow. We provide the world with quality oil-pulse torque tools, clutch type tools, grinding tools and torque measuring equipment. Our brand is **"TORERO"**. Our tools are available for automobile industry, home electric appliance , energy, building construction , aviation and shipbuilding industry.

Our factory have intensive R&D and technology to create high precision tools for industry market. We are still continuously developing feature TORERO brand tools for industry market . We have designed and improved a number of patents, especially oil-pulse tools enjoy high reputation in the field of manufacturing.

Chu Dai is an ISO-9001 quality control manufacturer. Products are also own CE certificate. Our oil-pulse tools are the best choice of professional tightening tools, automobile assembly factories and production lines. " Integrity , Quality , Innovation , Unceasing improvements , Customer first , Continuous growth" are the very core values and cornerstones where Chu Dai's crew-build up prosperity and pride. Working with us multiplies your performance.

Our business philosophy

"Honest , Innovation, Cooperation and Concern"

THE SPIRIT OF TORERO

Create international brand • Provide customers with honest service • Adhere to concept of precise R&D • Innovate product •Expand market • Cooperate with partners •Sustainable product management • Sincerely concern customers



READING GIDE

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Patent Diagrammatic

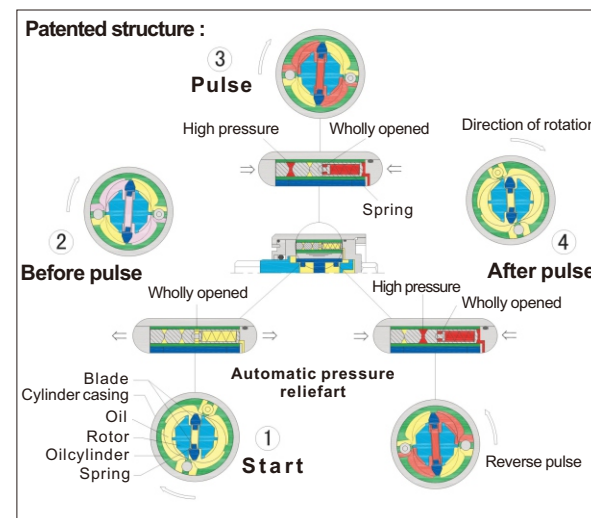
Our tools have been registered invention patents at multiple countries. You will touch on our patents even if your tools are improved. We would pursue legal responsibility if you copy our tools.

1. OBT series oil-pulse tools :

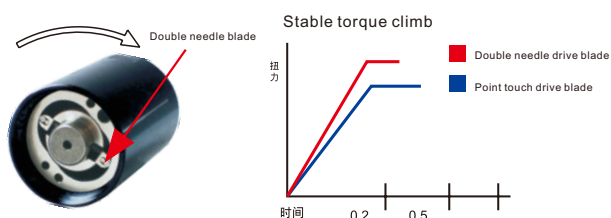
Our company has unique and new technology of "automatic pressure relief function".

Old type oil-pulse tools : Oil routing size depend on target torque when high-pressure oil region flow to low-pressure oil region in tightening process and pulsing unit. It make speed climbing slowly and torque unstably during tightening process.

New type oil-pulse tools : These tools use unique and patented technology of "automatic pressure relief function". This new technology make oil pass "pressure relief device" when high-pressure oil region flow to low-pressure oil region. This new device will automatically adjust flowing oil size in tightening process and pulsing unit . It will effectively improve tightening and make torque stably. This new technology improve fastening requirement more ideal. In addition, the target torque will be the same as old types with this new device.

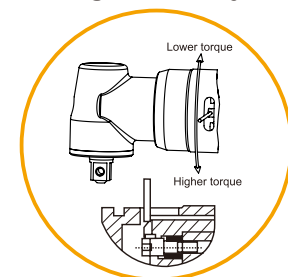


2. Double Needle Roller Illustration



Aiming at the torque climbing speed and the automatic air cut-off stability, the accuracy can be quickly exerted in the case of high and low air pressure

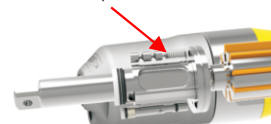
3. Angle tool adjusting torque device :



It is convenient for fast mini-adjustment and correction to use rotary adjusting torque device.

4. Automatic pressure relief device :

Automatic pressure relief device

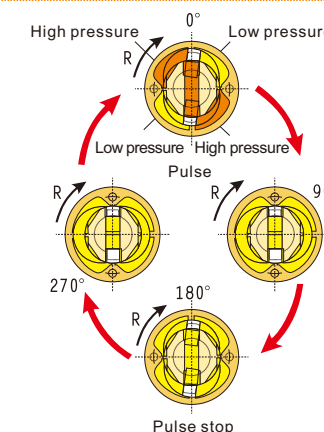


This device make pulse more smoother, torque climbing faster and efficient.

Features of oil-pulse tool

Double-blade pulsing unit

Oil-pulse tool is almost no reaction force at handle due to pulsing cycle is very short. This is different from impact wrenches. Oil-pulse tool won't have metal-to-metal collision. It offer stable pulse. This can reduce vibration , noise and make tool have long life . All of our oil-pulse tools are combination of double-blade pulsing unit and double cylinder rotor. It can increase 50% weight power ratio. It react speed fast when it tighten. It performed more excellently at soft joint.



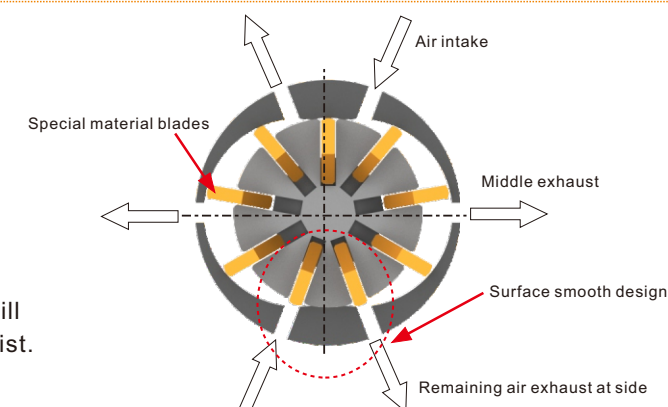
Double cylinder rotor

High efficient rotor

- New design and energy-saving type air rotor
- Special coated rotating blades
- Middle exhaust
- Surface smooth design
- Drain away excess air

Low oil mist

We use self-lubricating blades and cylinder. It will reduce the problem of more lubricants and oil mist.



New series appearance of oil-pulse tools

- The grip is ergonomic. There are more spaces for fingers. Fingers feel more comfortable.



- The top handle area is smaller now. It make pressing trigger will be more flexible.



- Handle grip is oval shape which meet ergonomic. It reduce sliding at tightening process. It can resist reaction-force



- It don't need to use special tool for maintenance and adjusting inside parts. It can use general open-end wrench for maintenance and adjusting inside parts.



- Standard trigger is as art shown.

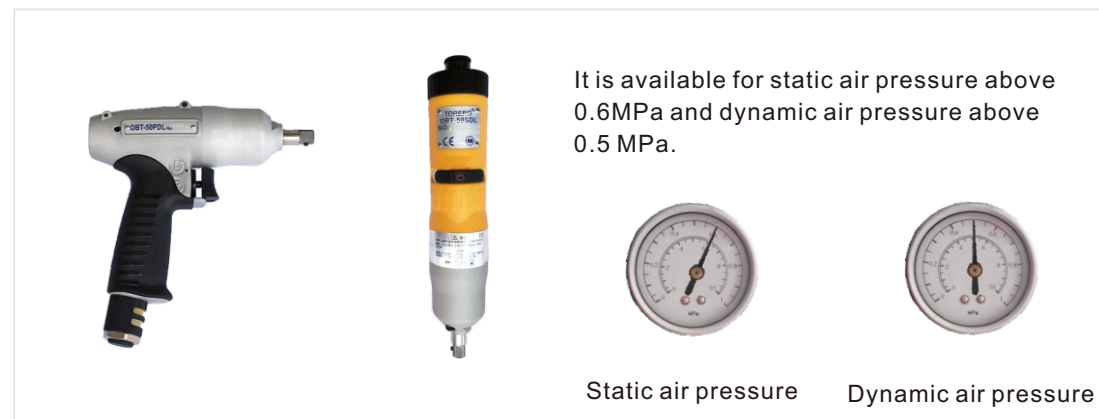


The extended trigger is only suitable for below series :
OBT-180PD
OBT-150PD
OBT-130PD



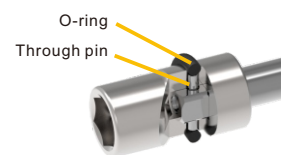
Choosing description of high and low pressure oil-pulse tool

Different gas source conditions will lead to changes in a tool's performance, gas cut-off speed, service life, and other aspects.



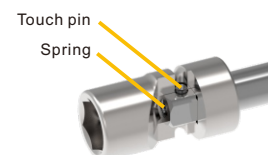
Tool head type : Touch pin type and through pin type

Tool head is square. Head has touch pin type and through pin type for choosing(We normally provide touch pin type if you don't specify any type.)



Through-pin type :

It use through-pin and o-ring to fix socket. It use for changing socket infrequently (It need to buy.)
O-ring and through pin are packaged in the box.



Touch-pin type :

It use touch-pin to fix socket. It use for changing socket frequently.
The spring and touch-pin are already installed on tool when export.

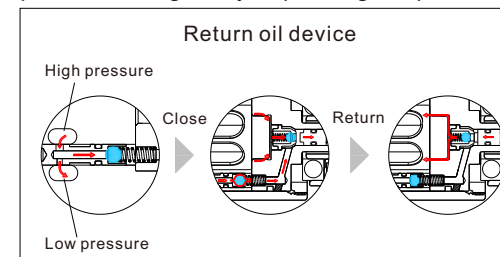
Principle of OBT series tool

The high-precision automatic shut off oil-pulse tools are with high precision , high efficiency and excellent durability at highest tightening peak.

Features :

Reliable torque precision and fast shut off efficiency

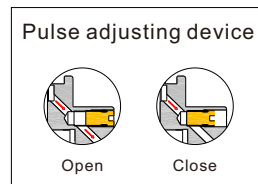
- 1. Automatic relief device(PAT.P) :**
Reference the first one on catalogue page 1 .
- 2. Return oil valve device(PAT.P) :**
New R & D patent(Return oil valve- fast return oil system) can reach more accurately repetitive torque. It can effectively solve torque error in each tightening process and greatly improving torque accuracy.



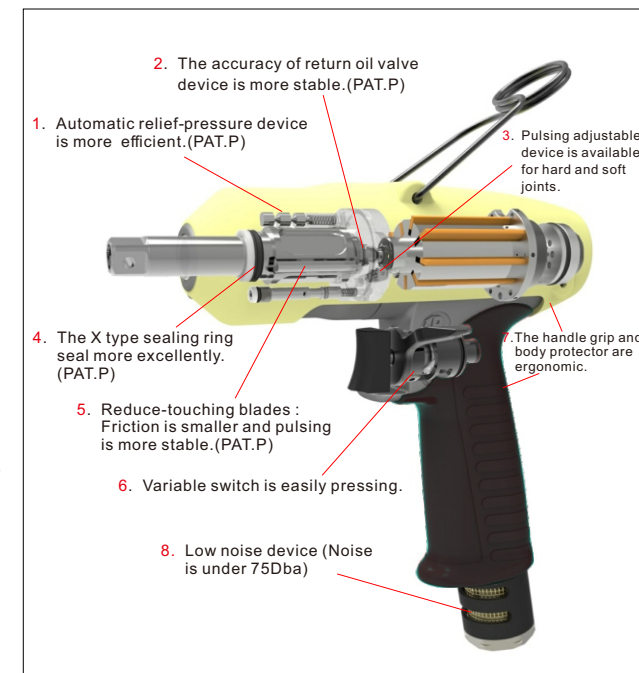
- 3. We offer various return- springs for choosing to satisfy customers at different air source environment.**
The new R&D various return- springs can quickly shut off even at the lowest air pressure 0.35Mpa.

Raise effectively and reduce costs :

- 4. Pulse adjusting device(PAT.P) :**
This adjusting device is for satisfying soft and hard joint requirement. It also can switch shut-off and non shut-off.



- 5. X-type sealing ring(PAT.P) :**
Pulse unit have dozens of times pulse/ per second under high pressure environment. This is a big challenge for pulse unit's sealing . We already have accumulated technology and researched for many years. The new developed X-type sealing ring have excellent effect of sealing and long life.
- 6. Reduced touch blades(PAT.P) :**
The new type reduced touch oil-pulse blades contact cylinder's R-point is more smaller. We use fine surface grinding technology for these blades . Blades will be more durable and sealing excellently. Every pulse strike will be more stable. This fine surface grinding technology also can reduce cost of maintenance blades.



New pulse blades type sectional view :



- New type pulse blades
- 1.Compressing process is more closely
 - 2.R-point contacting area is more smaller.
 - 3.Torque climbing is more faster.

Reduce labor strength of operator

7. Variable switch(PAT.P) :

Variable switch make operator feel comfortable in any pressure environment. Operator won't have the pressure of pressing trigger in continuous using.

Contribution of environmental protection

8. The new type product bodies are ergonomic.

These tools are low noise and low vibration. They are also with small reaction force oil-pulse device. The small handle design reduce burden of hand、finger and wrist. Tools don't paint and change to sand blasting for environment protecting. We use green material for handle grip and body protector.

9. Low noise device :

New developed low noise device can be friendly for operator and environment.

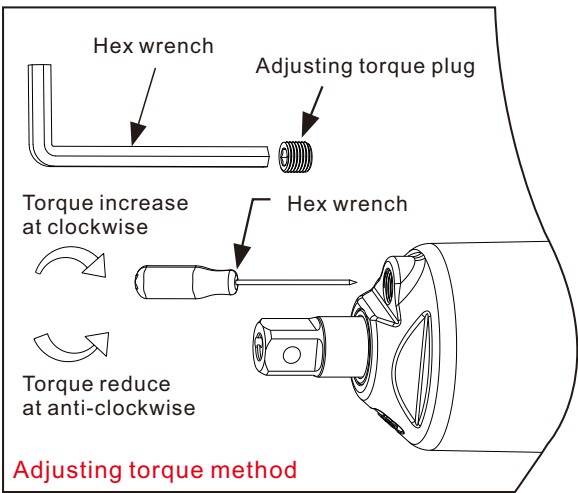
Oil-pulse tool



Oil-pulse tool choosing guide

1. It need to understand air pressure、bolt size、material、torque requirement and joint situation when choose an oil-pulse tool. (It will lose torque when use long socket or universal socket. It would choose a larger oil-pulse tool when use long socket and universal socket.)
2. It don't suit to use shut-off oil-pulse tool when use long socket or universal socket.

Oil-pulse tool adjust torque diagram (Pistol and straight type)



Pistol shut-off oil-pulse wrench



Pistol Type Series (Suit for pressure 0.5-0.6MPa = 72.5 - 87 psi)

Model	Bolt size mm	Torque range Nm 0.5-0.6MPa	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
				0.4MPa	0.5MPa	0.6MPa						
OBT-40PD	5	4-12	3/8	-	3700	4000	160.5	0.92	PT 1/4	6.5	0.2	75
OBT-50PD	5-6	7-16	3/8	-	4200	4500	160.5	0.92	PT 1/4	6.5	0.25	78
OBT-60PD	8	16-32	3/8	-	5700	6000	170	0.95	PT 1/4	6.5	0.35	80
OBT-70PD	8-10	30-50	3/8	-	5700	6000	183	1.05	PT 1/4	8.0	0.4	80
OBT-80PD	8-10	40-65	3/8	-	5500	5800	187	1.25	PT 1/4	8.0	0.48	80
OBT-81PD	10	40-65	1/2	-	5500	5800	192	1.25	PT 1/4	8.0	0.48	80
OBT-90PD	10-12	42-85	1/2	-	4700	5000	192	1.45	PT 1/4	8.0	0.53	82
OBT-100PD	12	75-130	1/2	-	4200	4500	198	1.7	PT 1/4	8.0	0.55	82
OBT-130PD	12-14	110-150	1/2	-	4200	4500	215	2.3	PT 1/4	12.7	0.7	82
OBT-150PD	14-16	130-210	3/4	-	3600	3900	243.5	2.9	PT 1/4	12.7	0.7	82
OBT-180PD	16-18	165-260	3/4	-	2800	3000	262	3.7	PT 3/8	12.7	0.7	82

Model	Bolt size mm	Torque range Nm 0.55-0.65MPa	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
				0.4MPa	0.5MPa	0.6MPa						
OBT-250PD	16-20	250-450	3/4	-	-	3600	221	4.2	PT 3/8	13	1.4	85

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

Pistol shut-off oil-pulse screwdriver

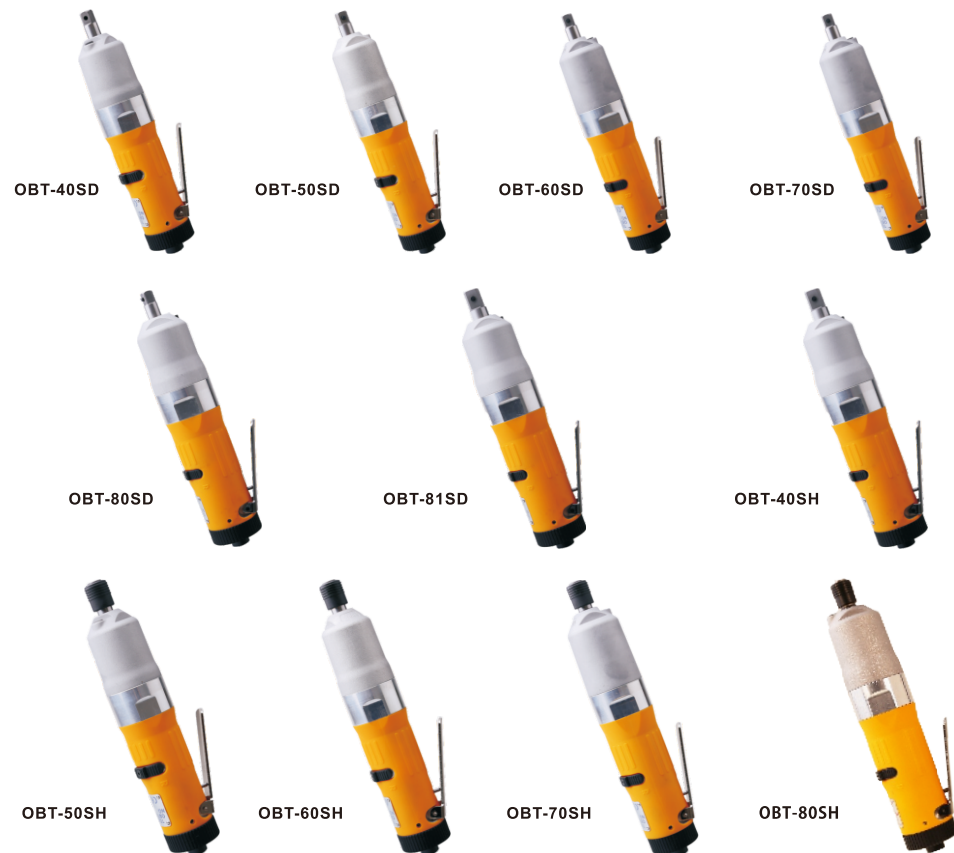


OBT-40PH OBT-50PH OBT-60PH OBT-70PH OBT-80PH

Pistol Type Series (Suit for pressure 0.5-0.6MPa = 72.5 - 87 psi)

Model	Bolt size mm	Torque range Nm	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
		0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBT-40PH	5	4-12	1/4	-	3700	4000	161	0.92	PT 1/4	6.5	0.2	75
OBT-50PH	5-6	7-16	1/4	-	4200	4500	161	0.92	PT 1/4	6.5	0.25	78
OBT-60PH	6-8	14-30	1/4	-	5700	6000	171	0.95	PT 1/4	6.5	0.35	80
OBT-70PH	8	22-35	1/4	-	5700	6000	183	1.05	PT 1/4	8.0	0.4	80
OBT-80PH	8-10	32-45	1/4	-	5500	5800	191	1.26	PT 1/4	8.0	0.48	80

Straight shut-off oil-pulse wrench/screwdriver



Straight Type Series (Suit for pressure 0.5-0.6MPa = 72.5 - 87 psi)

Model	Bolt size mm	Torque range Nm	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
		0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBT-40SD	5	4-12	3/8	-	4700	5000	218	0.83	PT 1/4	6.5	0.2	70
OBT-50SD	5-6	7-16	3/8	-	5600	6000	218	0.83	PT 1/4	6.5	0.25	78
OBT-60SD	8	16-35	3/8	-	5800	6200	228	0.87	PT 1/4	6.5	0.3	80
OBT-70SD	8-10	30-48	3/8	-	5400	5800	240.5	0.95	PT 1/4	8.0	0.35	80
OBT-80SD	8-10	35-60	3/8	-	6100	6500	246.5	1.2	PT 1/4	8.0	0.48	80
OBT-81SD	10	35-60	1/2	-	6100	6500	251.5	1.25	PT 1/4	8.0	0.48	80
OBT-40SH	5	4-12	1/4	-	4700	5000	220.5	0.83	PT 1/4	6.5	0.2	70
OBT-50SH	5-6	7-16	1/4	-	5600	6000	220.5	0.83	PT 1/4	6.5	0.25	78
OBT-60SH	6-8	16-32	1/4	-	5800	6200	230.5	0.87	PT 1/4	6.5	0.3	80
OBT-70SH	8	22-35	1/4	-	5400	5800	240.5	0.95	PT 1/4	8.0	0.4	80
OBT-80SH	8-10	28-43	1/4	-	6100	6500	230.5	0.87	PT 1/4	8.0	0.48	80

Pistol non shut-off oil-pulse screwdriver



OBN-30PH OBN-40PH OBN-50PH
OBN-60PH OBN-70PH OBN-80PH

Model	Bolt size mm	Torque range Nm	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
		0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBN-30PH	5-6	6-12	1/4	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-40PH	6	11-20	1/4	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-50PH	6-8	22-35	1/4	-	5700	6000	134	0.77	PT 1/4	6.5	0.25	78
OBN-60PH	8	30-40	1/4	-	6200	6500	142	0.82	PT 1/4	8.0	0.4	80
OBN-70PH	8-10	35-45	1/4	-	6200	6500	155	0.95	PT 1/4	8.0	0.45	80
OBN-80PH	8-10	42-62	1/4	-	6500	6800	170	1.18	PT 1/4	8.0	0.48	80

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Pistol non shut-off oil-pulse wrench



Model	Bolt size mm	Torque range Nm 0.5-0.6MPa	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
				0.4MPa	0.5MPa	0.6MPa						
OBN-30PD	5-6	6-12	3/8	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-40PD	6	13-22	3/8	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-50PD	6-8	22-35	3/8	-	5700	6000	134	0.77	PT 1/4	6.5	0.25	78
OBN-60PD	8-10	35-50	3/8	-	6200	6500	141	0.82	PT 1/4	6.5	0.4	80
OBN-70PD	10	50-70	3/8	-	6200	6500	155	0.95	PT 1/4	8.0	0.45	80
OBN-80PD	10	60-95	3/8	-	6500	6800	161.5	1.15	PT 1/4	8.0	0.48	80
OBN-81PD	10-12	65-100	1/2	-	6500	6800	166.5	1.17	PT 1/4	8.0	0.48	80
OBN-90PD	12	90-110	1/2	-	5200	5500	165	1.3	PT 1/4	8.0	0.53	82
OBN-100PD	12-14	105-140	1/2	-	4200	4500	172	1.66	PT 1/4	8.0	0.58	80
OBN-130PD	14	110-170	1/2	-	4000	4200	185	2.3	PT 1/4	12.7	0.65	82
OBN-150PD	14-16	160-240	3/4	-	4000	4200	213.5	2.5	PT 1/4	12.7	0.7	82
OBN-180PD	16-18	200-280	3/4	-	3300	3500	226.5	3.0	PT 3/8	12.7	0.7	82

9 Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Straight non shut-off oil-pulse wrench/screwdriver



Model	Bolt size mm	Torque range Nm 0.5-0.6MPa	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noise level dB
				0.4MPa	0.5MPa	0.6MPa						
OBN-40SD	5-6	13-22	3/8	-	4700	5000	218	0.62	PT 1/4	6.5	0.23	75
OBN-50SD	6-8	22-35	3/8	-	5200	5500	218	0.74	PT 1/4	6.5	0.35	78
OBN-60SD	8-10	35-50	3/8	-	5600	6000	228	0.77	PT 1/4	6.5	0.45	80
OBN-70SD	10	45-65	3/8	-	5600	6000	240.5	0.87	PT 1/4	8.0	0.45	84
OBN-80SD	10	55-90	3/8	-	6600	7000	246.5	1.2	PT 1/4	8.0	0.48	80
OBN-81SD	10-12	60-95	1/2	-	6600	7000	251.5	1.25	PT 1/4	8.0	0.48	80
OBN-30SH	5	6-10	1/4	-	6200	6700	219	0.72	PT 1/4	5.0	0.2	65
OBN-40SH	5-6	12-20	1/4	-	4800	5100	220.5	0.62	PT 1/4	6.5	0.23	75
OBN-50SH	6-8	18-30	1/4	-	5200	5400	220.5	0.74	PT 1/4	6.5	0.35	78
OBN-60SH	8	28-35	1/4	-	5600	6000	230.5	0.77	PT 1/4	6.5	0.45	80
OBN-70SH	8-10	30-40	1/4	-	5600	6000	240.5	0.87	PT 1/4	8.0	0.45	84
OBN-80SH	8-10	45-60	1/4	-	6600	7000	250	1.24	PT 1/4	8.0	0.48	80

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Angle shut-off oil-pulse wrench

The head can be installed in any direction 360°



Elbow Series(Suit for pressure 0.5-0.6MPa = 72.5 - 87 psi)

Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBT-50SC	5-6	6-15	3/8	-	4500	4700	258.0	1.28	PT 1/4	6.5	0.25	75
OBT-60SC	6-8	13-25	3/8	-	5500	5800	270.0	1.35	PT 1/4	6.5	0.30	75
OBT-70SC	8-10	27-45	3/8	-	3900	4200	289.0	1.63	PT 1/4	8.0	0.35	78
OBT-70SC-1	8	30-50	1/2	-	3900	4200	289.0	1.64	PT 1/4	8.0	0.35	78
OBT-80SC	10	44-62	1/2	-	3100	4500	295.0	2.00	PT 1/4	8.0	0.35	80
OBT-80SC-1	10	45-65	1/2	-	3100	4400	295.0	2.00	PT 1/4	8.0	0.35	80

Angle shut-off oil-pulse screwdriver



Elbow Series(Suit for pressure 0.5-0.6MPa = 72.5 - 87 psi)

Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBT-50SCH	5-6	13-18	1/4	-	4500	4700	259.0	1.27	PT 1/4	6.5	0.25	75
OBT-60SCH	6-8	16-23	1/4	-	5500	5800	270.0	1.32	PT 1/4	6.5	0.30	75
OBT-70SCH	8	18-25	1/4	-	5000	5300	281.0	1.42	PT 1/4	6.5	0.35	78

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Angle non shut-off oil-pulse wrench



Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBN-50SC	6-8	18-25	3/8	-	4800	5200	261.5	1.35	PT 1/4	6.5	0.40	75
OBN-60SC	8	25-35	3/8	-	5700	6000	269.5	1.45	PT 1/4	6.5	0.43	75
OBN-70SC	8-10	40-55	3/8	-	3600	4000	285.0	1.60	PT 1/4	8.0	0.45	78
OBN-70SC-1	8-10	45-60	1/2	-	3600	4000	285.0	1.62	PT 1/4	8.0	0.45	78
OBN-80SC	10-12	63-90	1/2	-	3200	3500	305.5	1.85	PT 1/4	8.0	0.50	80
OBN-80SC-1	10	65-95	1/2	-	3200	3500	294.0	1.97	PT 1/4	8.0	0.50	78

Angle non shut-off oil-pulse screwdriver

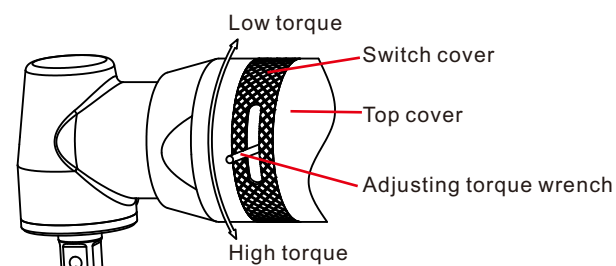


Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBN-50SCH	6	14-20	1/4	-	4000	4200	256.0	1.22	PT 1/4	6.5	0.40	75
OBN-60SCH	6-8	18-26	1/4	-	5400	5800	264.0	1.26	PT 1/4	6.5	0.43	75
OBN-70SCH	8	22-30	1/4	-	4800	5200	277.0	1.40	PT 1/4	8.0	0.45	75

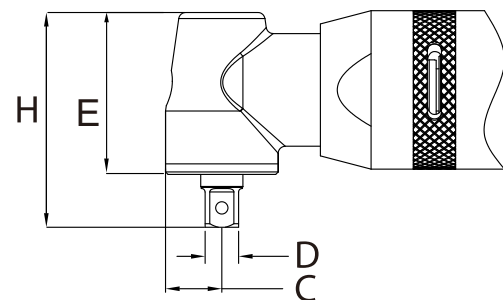
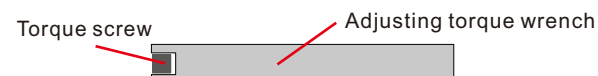
Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Angle oil-pulse tool adjust torque diagram :

- 1) Turn trigger cover by hand and make cover hole expose.
- 2) Turn anvil by hand until torque screw is visible from the hole.
- 3) Don't rotate anvil and fixed it. Using a adjusting torque wrench toward down is adjusting high torque. Using a adjusting torque wrench toward up is adjusting low torque.
- 4) Turing switch cover the hole of top cover after adjusting Torque.



Torque screws as below art shown :



Model	C		H		D		E	
	mm	in	mm	in	mm	in	mm	in
50/60Type 3/8Head	16	5/8	61	2 3/8	9.5	3/8	46	1 4/5
50/60/70Type 1/4Head	16	5/8	62	2 2/5	9.5	3/8	46	1 4/5
OBT/OBN-80SC	22.5	7/8	78	3 1/8	12.7	1/2	58	2 3/10
OBT/OBN-70SC	18	7/10	70	2 3/4	9.5	3/8	54.5	2 3/20
OBT/OBN-70SC-1	18	7/10	75	3	12.7	1/2	54.5	2 3/20
OBT/OBN-75SC								
OBT/OBN-80SC-1								

Duckbill gear wrench (powerful type)

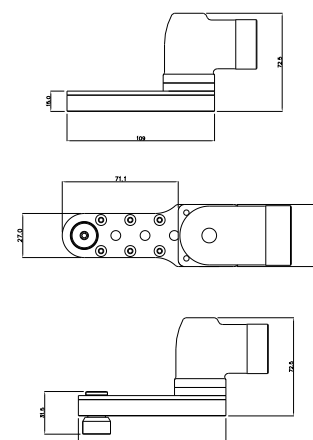
Selection of Socket Gear Type:
Through-hole Type or Extended Type

All gear arms can rotate
90 degrees to the left and right



The head can be installed in any direction at 360 degrees

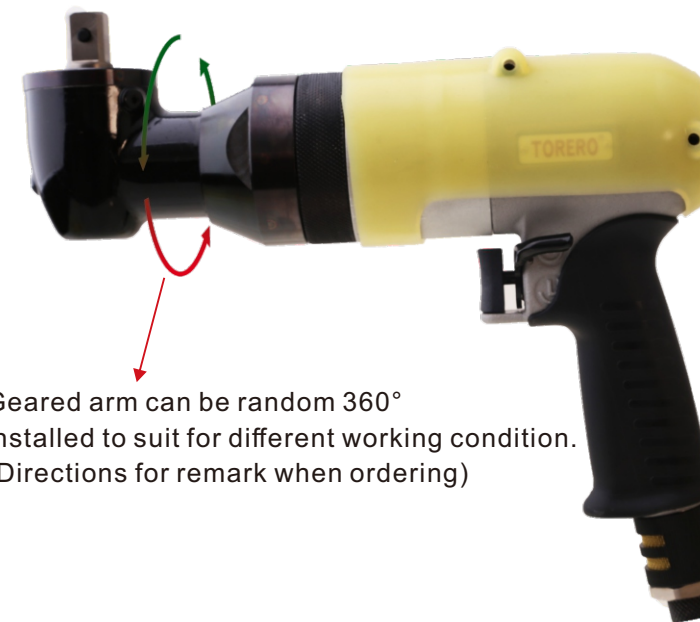
Head Size Reference Chart:



Model	Bolt size	Torque range	Opposing edge size of socket gear	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	mm	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBN-70SZ	8	22-35	10 12 13	-	3700	4000	358.0	2.00	PT 1/4	8.0	0.45	75
OBN-80SZ	8-10	30-45	10 12 13	-	4500	4800	365.0	2.36	PT 1/4	8.0	0.50	80

Opposite Side Dimension of External Socket	mm	10	11	12	13	14	15	16	17
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Pistol angle non shut-off oil-pulse wrench



Geared arm can be random 360°
installed to suit for different working condition.
(Directions for remark when ordering)

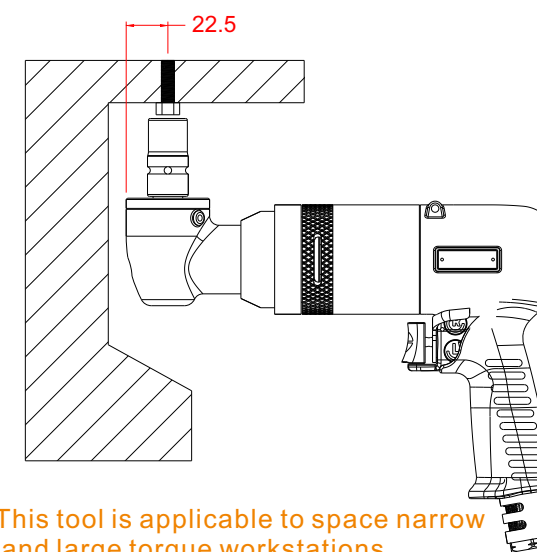
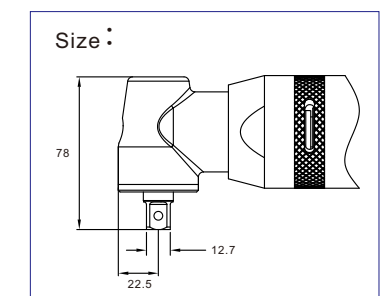


Figure 1

The torque is directly transmitted to the bolt, with little torque loss and fast speed. High precision and convenient operation.

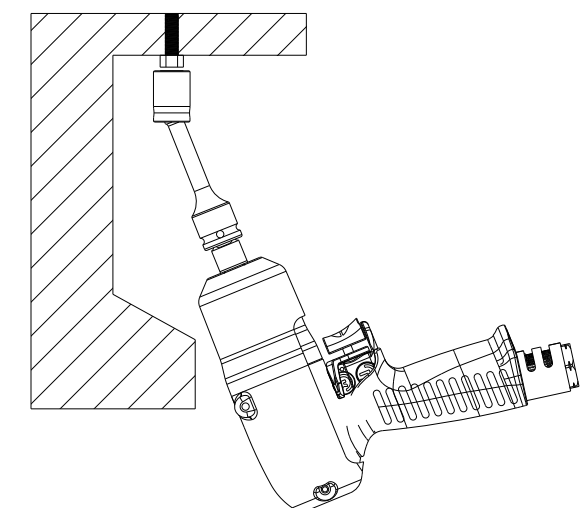


Figure 2

Using universal sleeve, the torque loss is over 50%, and the tightening time is long. Poor precision, large tool consumption.

Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.5-0.6MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBN-100PL	12-14	100-120	1/2	-	2400	2500	235	2.61	PT 1/4	8.0	0.58	80

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

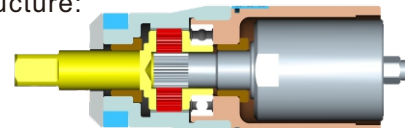
Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

Oil-pulse double fixed torque wrench



Patent structure:



oil pressure components enlarge torque and reduce reaction force. Planetary gear sets magnify torque reduce rotational speed. This structure is very suitable for soft connection. (PAT.)

Product advantages: specially designed for bicycle shaft fixed torque wrench for ultra soft connection 360 degree design

Model	Torque range	Square drive	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	Nm		rpm						
	0.5-0.6MPa	mm	0.5MPa-0.6MPa	mm	Kg	in	mm	m³/min	dB
OBT-80PN	90-100(25-50)	1/2	1400-1500	242	1.83	PT 1/4	8.0	0.4	78
OBT-90PN	110-120(45-75)	1/2	1200-1300	244	1.95	PT 1/4	8.0	0.45	79
OBT-100PN	140-160(98-112)	1/2	1100-1200	260	2.44	PT 1/4	8.0	0.48	79
OBT-130PN	190-220(133-154)	1/2	1000-1100	280	3.04	PT 1/4	12.7	0.5	79

Unique reverse torsion function

Model	Torque range	Square drive	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	Nm		rpm						
	0.5-0.6MPa	mm	0.5MPa-0.6MPa	mm	Kg	in	mm	m³/min	dB
OBT-80PN-1	90-100(25-50)	1/2	1400-1500	242	1.83	PT 1/4	8.0	0.4	78
OBT-90PN-1	110-120(45-75)	1/2	1200-1300	244	1.95	PT 1/4	8.0	0.45	79
OBT-100PN-1	140-160(98-112)	1/2	1100-1200	260	2.44	PT 1/4	8.0	0.48	79
OBT-130PN-1	190-220(133-154)	1/2	1000-1100	280	3.04	PT 1/4	12.7	0.5	79

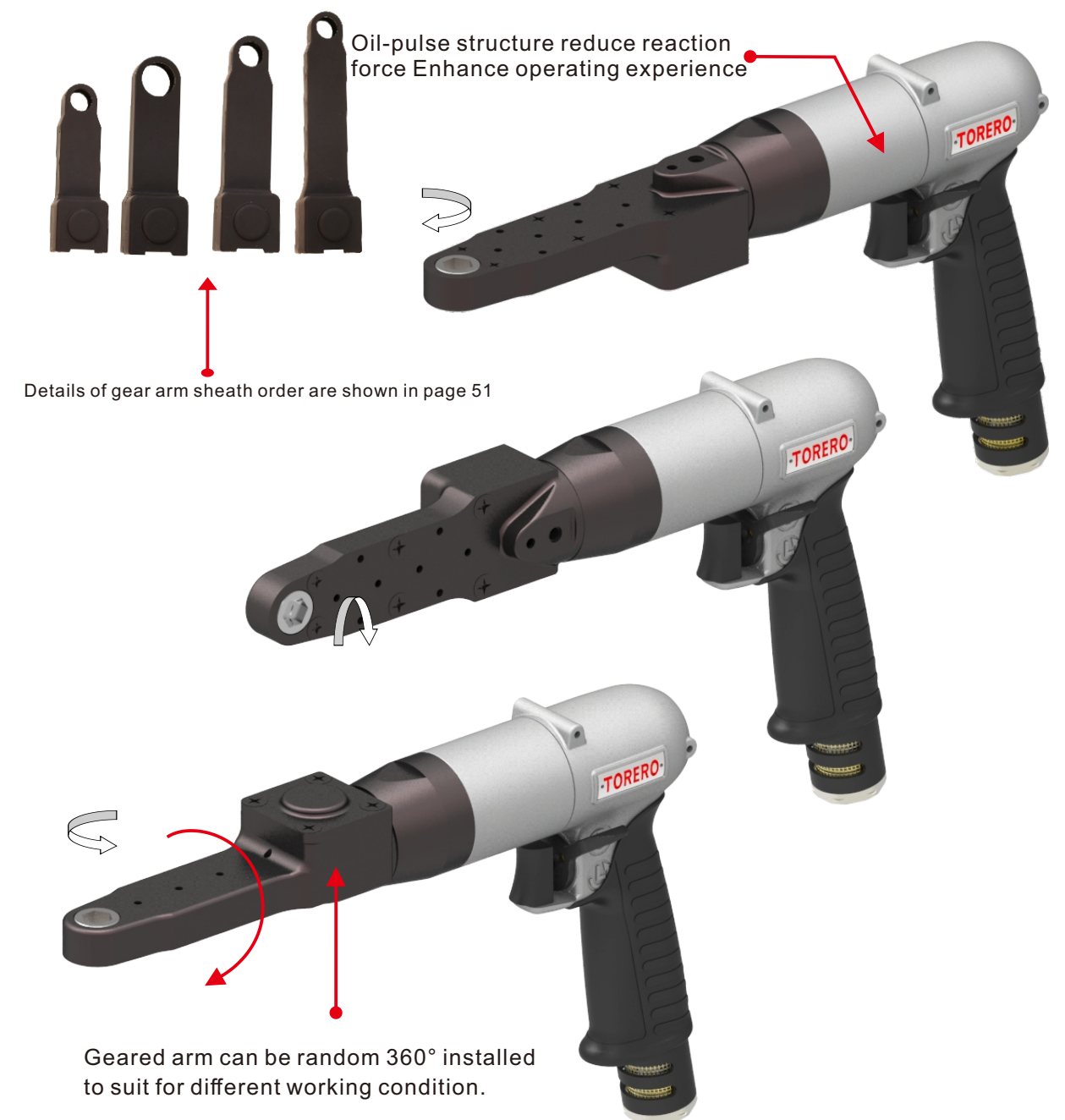
Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

Non shut-off geared oil- pulse tool(Close-end)

Close-end geared oil-pulse tool is available for small spaces. Especially the wrench head with angle can finish job at very difficult areas . These areas are hard finished by ordinary tools. Products with oil-pulse construction reduce reaction force. Operator use oil-pulse tool will feel more comfortable.



Pre-tighten geared wrench

Note: the gear arm will change the tightening direction due to different installation directions.

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

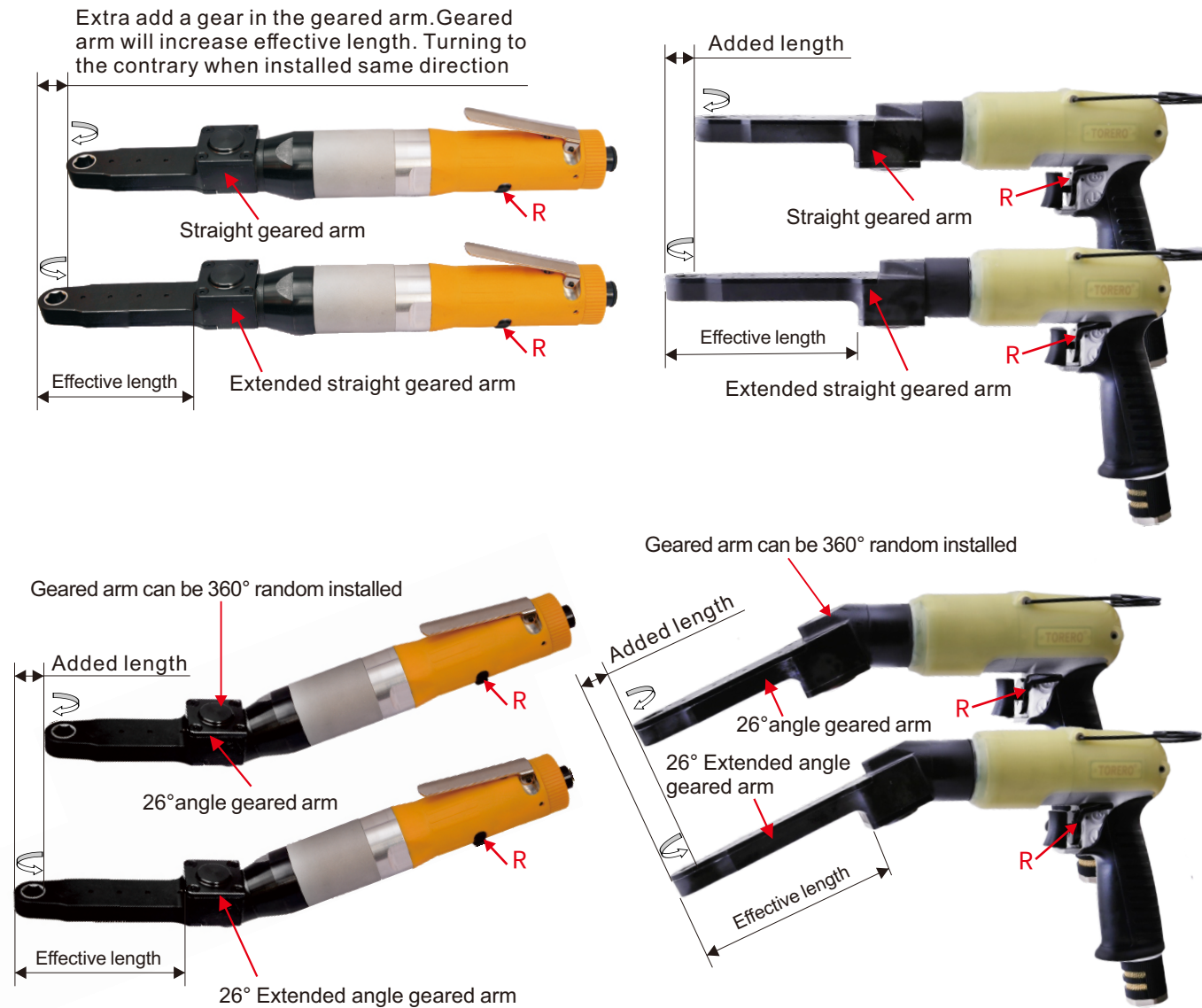
Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

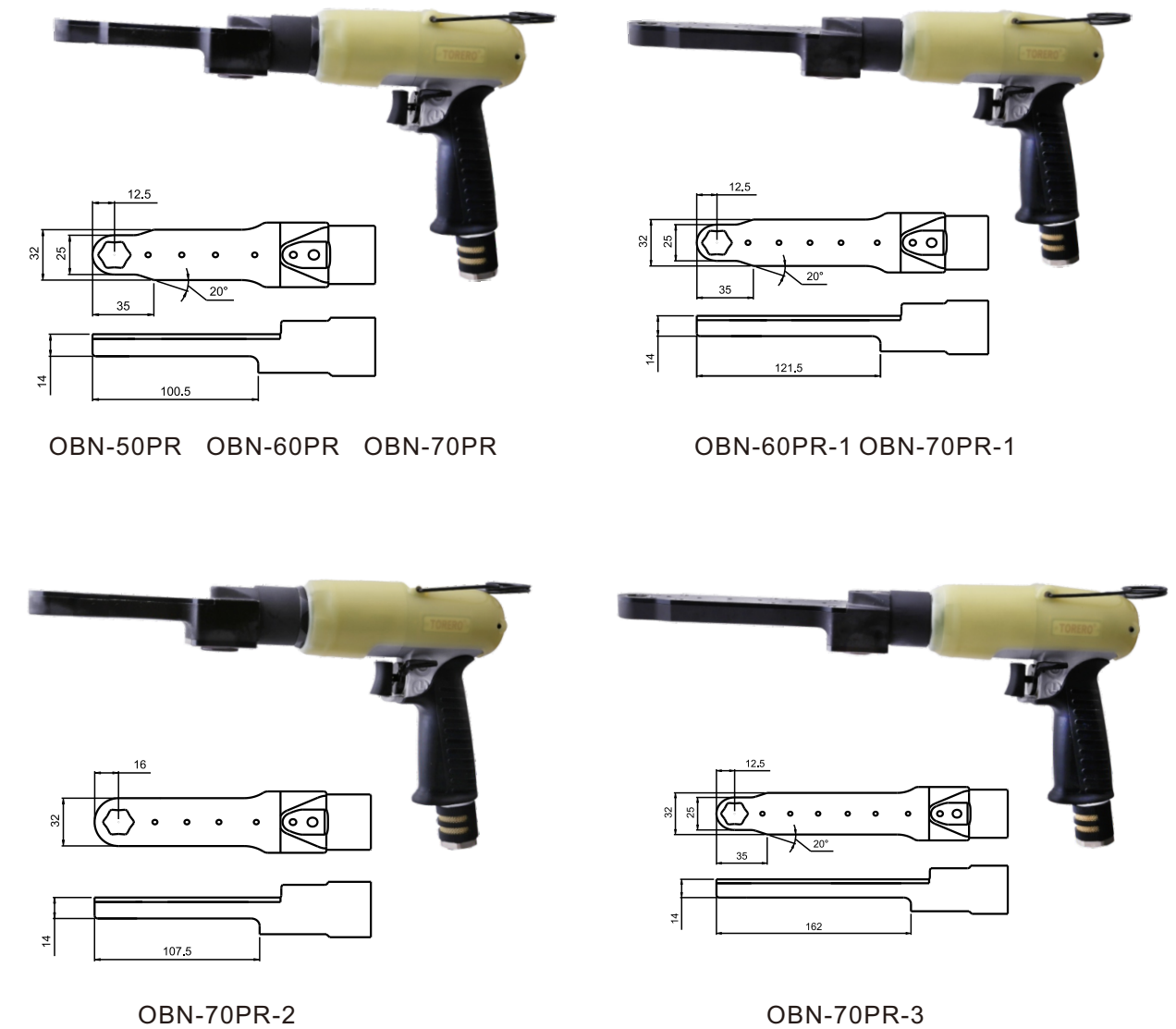
Non shut-off geared oil- pulse tool(Close-end)

We offer various geared arms which include straight geared arm, 26° geared arm and extended 26° geared arm. These geared arms have different lengths and shapes to suit for various working environments.

The extended arm is more a gear than standard geared arm. The socket turn to opposite direction if geared arm and tool installed direction not change.



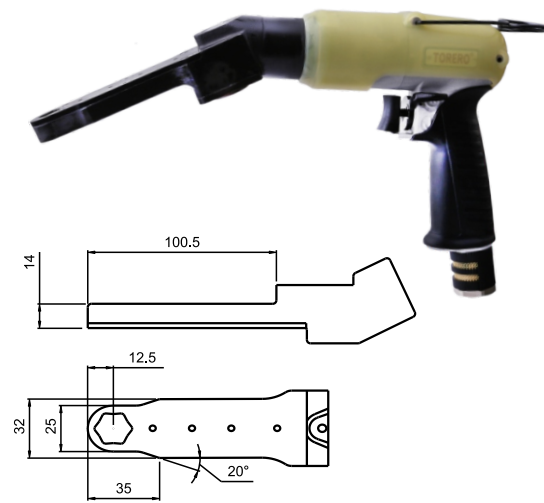
Pistol non shut-off geared oil-pulse tool(Close-end)



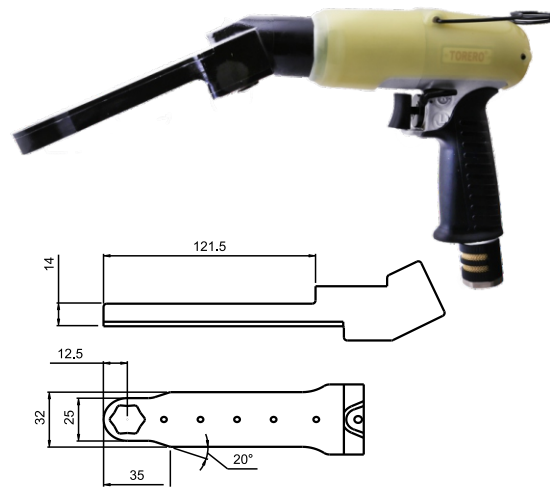
Model	Opposing edge size of socket gear		Torque range Nm	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	in	0.5-0.6MPa	rpm	mm	kg	in	mm	m³/min	dB
OBN-50PR	8 10 11 12 13	3/8" 7/16"	15-25	2100	286	1.58	PT 1/4	6.5	0.37	80
OBN-60PR	8 10 11 12 13	3/8" 7/16"	22-32	3000	289	1.66	PT 1/4	6.5	0.4	80
OBN-70PR	8 10 11 12 13	3/8" 7/16"	25-35	3200	303.4	1.79	PT 1/4	8.0	0.45	80
OBN-60PR-1	8 10 11 12 13	3/8" 7/16"	20-30	3000	309.7	1.69	PT 1/4	6.5	0.4	80
OBN-70PR-1	8 10 11 12 13	3/8" 7/16"	25-33	3200	324.4	1.86	PT 1/4	8.0	0.45	80
OBN-70PR-2	12 13 14 16 17	9/16" 5/8"	25-40	3200	310.4	1.76	PT 1/4	8.0	0.45	80
OBN-70PR-3	8 10 11 12 13	3/8" 7/16"	25-30	3000	372.2	2.37	PT 1/4	8.0	0.45	80
OBN-80PR	16 17 18	9/16" 5/8"	45-60	3000	459	2.92	PT 1/4	8.0	0.47	80
OBN-80PR-1	19 21 22 24	3/8" 7/16"	45-60	3000	466	2.95	PT 1/4	8.0	0.47	80

Pistol 26°angle non shut-off geared oil-pulse tool(Close-end)

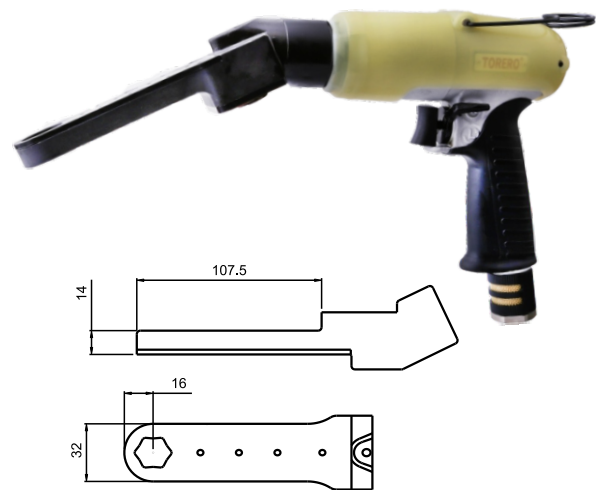
Straight non shut-off geared oil-pulse wrench(Close-end)



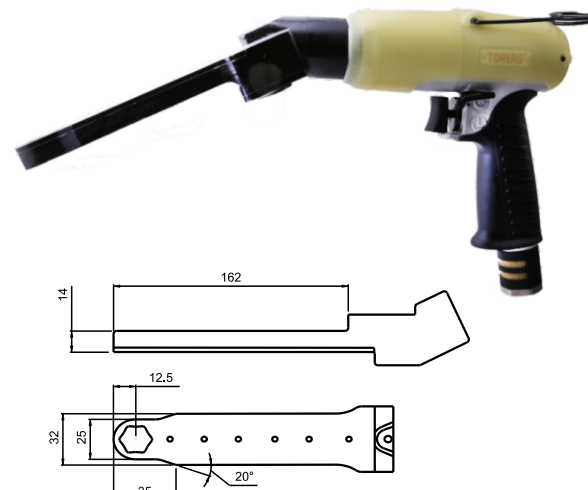
OBN-50PA OBN-60PA OBN-70PA



OBN-60PA-1 OBN-70PA-1



OBN-70PA-2



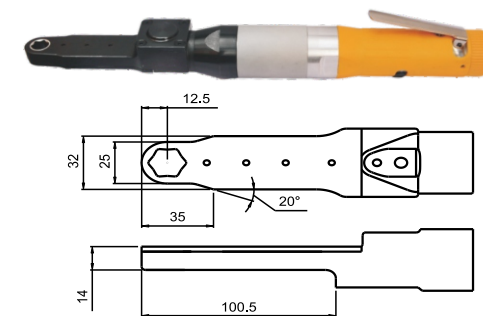
OBN-70PA-3

Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	in	Nm	rpm	mm	kg	in	mm	m³/min	dB
OBN-50PA	8 10 11 12 13	3/8" 7/16"	15-25	2100	281	1.58	PT 1/4	6.5	0.37	80
OBN-60PA	8 10 11 12 13	3/8" 7/16"	22-32	3000	284	1.66	PT 1/4	6.5	0.4	80
OBN-70PA	8 10 11 12 13	3/8" 7/16"	25-35	3200	298.7	1.79	PT 1/4	8.0	0.45	80
OBN-60PA-1	8 10 11 12 13	3/8" 7/16"	20-30	3000	302.9	1.69	PT 1/4	6.5	0.4	80
OBN-70PA-1	8 10 11 12 13	3/8" 7/16"	25-33	3200	317.6	1.86	PT 1/4	8.0	0.45	80
OBN-70PA-2	12 13 14 16 17	9/16" 5/8"	25-40	3200	301.9	1.78	PT 1/4	8.0	0.45	80
OBN-70PA-3	8 10 11 12 13	3/8" 7/16"	25-30	3000	365	2.41	PT 1/4	8.0	0.45	80
OBN-80PA	16 17 18	9/16" 5/8"	45-60	3000	459	2.92	PT 1/4	8.0	0.47	80
OBN-80PA-1	19 21 22 24	3/8" 7/16"	45-60	3000	466	2.95	PT 1/4	8.0	0.47	80

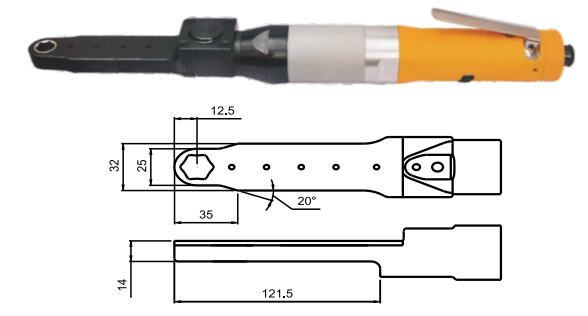
Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

Hard joint application : 70% of the maximum torque range in the catalogue.

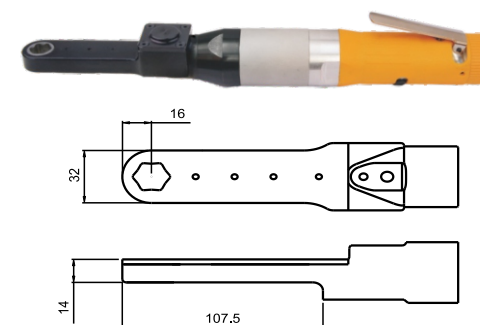
Soft joint application : The minimum of the torque in the catalogue.



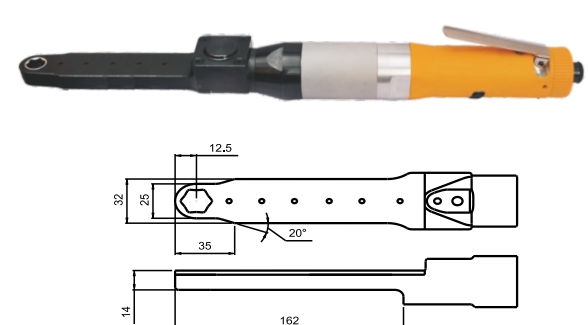
OBN-50SR OBN-60SR OBN-70SR



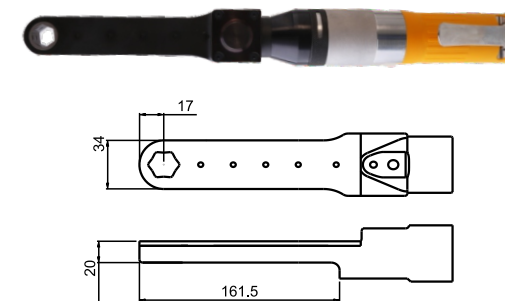
OBN-60SR-1 OBN-70SR-1



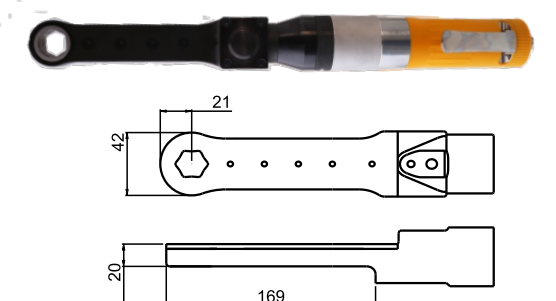
OBN-70SR-2



OBN-70SR-3



OBN-80SR



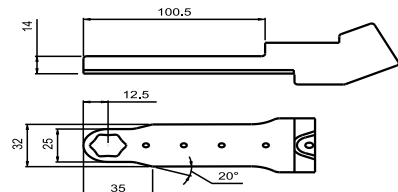
OBN-80SR-1

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

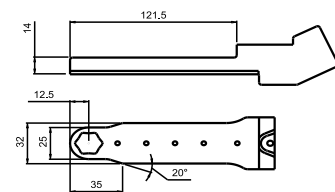
Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

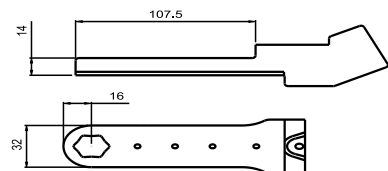
Straight 26°angle non shut-off geared oil-pulse wrench(Close-end)



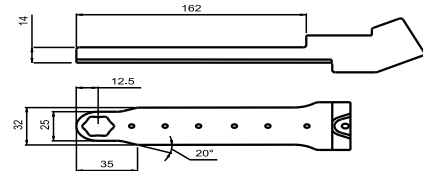
OBN-50SA OBN-60SA OBN-70SA



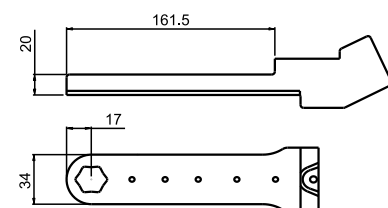
OBN-60SA-1 OBN-70SA-1



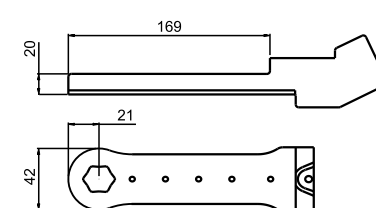
OBN-70SA-2



OBN-70SA-3



OBN-80SA



OBN-80SA-1

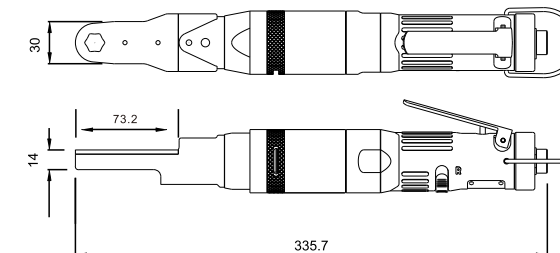
Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
			Nm							
	mm	in	0.5-0.6MPa	rpm	mm	kg	in	mm	m³/min	dB
OBN-50SA	8 10 11 12 13	3/8" 7/16"	15-25	2100	358	1.67	PT 1/4	6.5	0.37	80
OBN-60SA	8 10 11 12 13	3/8" 7/16"	22-32	3000	365	1.74	PT 1/4	6.5	0.4	80
OBN-70SA	8 10 11 12 13	3/8" 7/16"	25-35	3200	379.7	1.85	PT 1/4	8.0	0.45	80
OBN-60SA-1	8 10 11 12 13	3/8" 7/16"	20-30	3000	372.5	1.74	PT 1/4	6.5	0.4	80
OBN-70SA-1	8 10 11 12 13	3/8" 7/16"	25-33	3200	398.6	1.9	PT 1/4	8.0	0.45	80
OBN-70SA-2	12 13 14 16 17	9/16" 5/8"	25-40	3200	382.9	1.95	PT 1/4	8.0	0.45	80
OBN-70SA-3	8 10 11 12 13	3/8" 7/16"	25-30	3000	446	2.29	PT 1/4	8.0	0.45	80
OBN-80SA	16 17 18	9/16" 5/8"	45-60	3000	459	2.92	PT 1/4	8.0	0.47	80
OBN-80SA-1	19 21 22 24	3/8" 7/16"	45-60	3000	466	2.95	PT 1/4	8.0	0.47	80

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
 Hard joint application : 70% of the maximum torque range in the catalogue.
 Soft joint application : The minimum of the torque in the catalogue.

Straight-type air-cutoff hydraulic pulse torque-setting wrench (close-end)



OBT-60SR

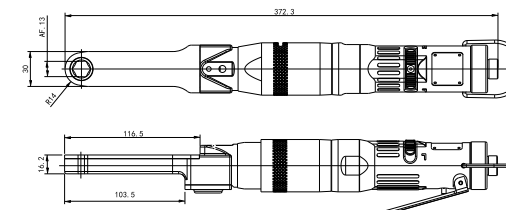


Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
			Nm							
	mm	in	0.5-0.6MPa	rpm	mm	kg	in	mm	m³/min	dB
OBN-60SR	8 10 11 12 13	3/8" 7/16"	25	2600	335	1.5	PT 1/4	6.5	0.37	80

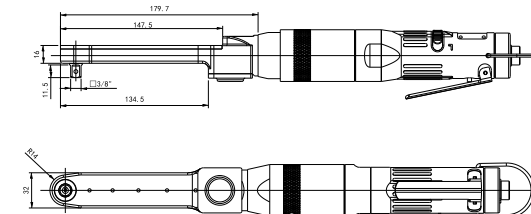
Straight-type stall-type hydraulic pulse torque-setting wrench (box-end reinforced custom type)



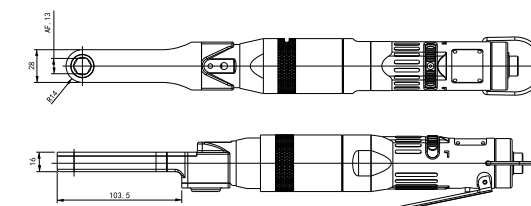
OBN-60SR-A01



OBN-70SR-A08



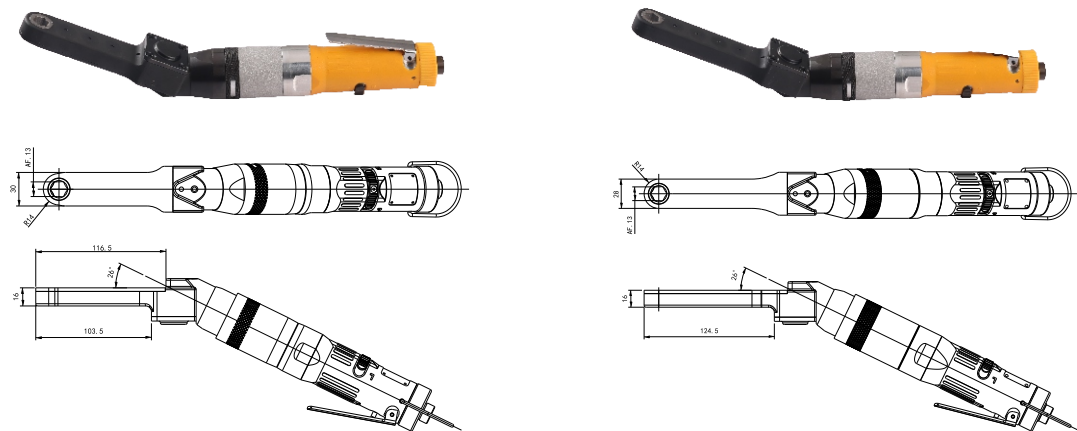
OBN-70SR-A05



Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
			Nm							
	mm	in	0.5-0.6MPa	rpm	mm	kg	in	mm	m³/min	dB
OBN-60SR-A01	6, 8 10 11 12 13	3/8" 7/16"	20-45	3000	372.3	1.67	PT 1/4	6.5	0.4	80
OBN-70SR-A08	6, 8 10 11 12 13	3/8" 7/16"	10-30	3200	417.9	1.95	PT 1/4	6.5	0.4	80
OBN-70SR-A05	6, 8 10 11 12 13	3/8" 7/16"	20-30	3000	386.9	1.67	PT 1/4	6.5	0.4	80
OBN-80SR-A05	6, 8 10 11 12 13	3/8" 7/16"	32-60	2200	397.3		PT 1/4	6.5	0.4	80

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
 Hard joint application : 70% of the maximum torque range in the catalogue.
 Soft joint application : The minimum of the torque in the catalogue.

Straight-type 26-Degree Angle Stall Torque Gear Oil-Pulse Wrench (box-end reinforced custom type)



OBN-60SA-A02

OBN-70SA-A06

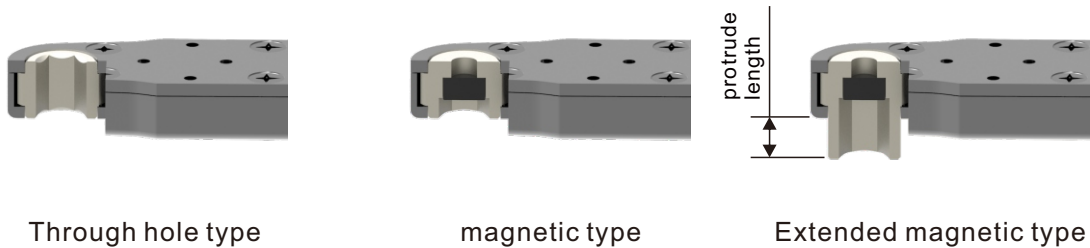


OBN-70SA-A09

Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	in	Nm							
OBN-60SA-A02	6, 8, 10, 11, 12, 13	3/8", 7/16"	20-30	3000	357.1	1.65	PT 1/4	6.5	0.4	80
OBN-70SA-A09	6, 8, 10, 11, 12, 13	3/8", 7/16"	10-30	3200	401.3	1.95	PT 1/4	6.5	0.4	80
OBN-70SA-A06	6, 8, 10, 11, 12, 13	3/8", 7/16"	25-35	3000	391.3	1.85	PT 1/4	6.5	0.4	80

Socket geared type

Socket gear has three options :
1. Through hole type 2. Magnetic type 3. Extended magnetic type



- Through hole type :**
Hex is through hole type. The center of socket gear is fitted with a retaining ring.
- Magnetic type :**
Socket is provided with magnet . The other side is hex. Socket gear install on geared arm don't protrude geared arm outside.
- Extended magnetic type :**
Extended magnetic gear socket's length is on magnetic type basis to increase length. It make socket gear protrude geared arm outside after installing tool.(The length can be customized by customer. But the length couldn't protrude over 10mm.)

Socket gear choosing table

Model	Through hole type specification	Magnetic type specification	Extended magnetic type specification
OBN-50PR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60PR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60PR-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PR-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PR-2	12 13 14 16 17	None	None
OBN-70PR-3	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-80PR	16 17 18	None	None
OBN-80PR-1	19 21 22 24	None	None
OBN-50PA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60PA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60PA-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PA-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70PA-2	12 13 14 16 17	None	None
OBN-70PA-3	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-80PA	16 17 18	None	None
OBN-80PA-1	19 21 22 24	None	None
OBN-50SR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60SR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SR	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60SR-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SR-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SR-2	12 13 14 16 17	None	None
OBN-70SR-3	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-80SR	16 17 18	None	None
OBN-80SR-1	19 21 22 24	None	None
OBN-50SA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60SA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SA	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-60SA-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SA-1	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-70SA-2	12 13 14 16 17	None	None
OBN-70SA-3	8 10 11 12 13	8 10 11 12 13	8 10 11 12 13
OBN-80SA	16 17 18	None	None
OBN-80SA-1	19 21 22 24	None	None

Please kindly verify us which type you need to order. We generally install non-magnetic socket on tool.

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

Unlock-prevent controlled tool

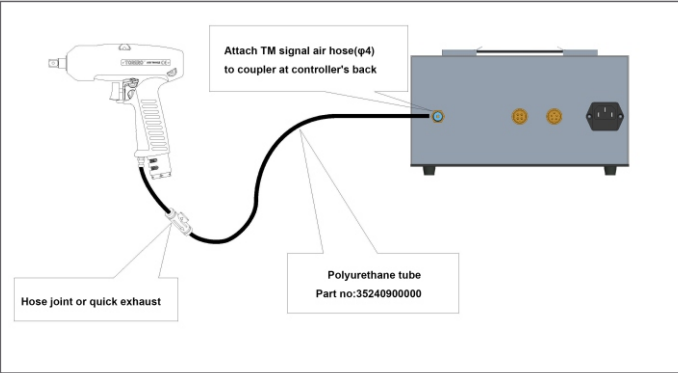
It can use controller to avoid no-locking screw . Tool has a small tube connect with controller. Tool will be from differential pressure during in tightening process to tell controller calculating the amount of differential pressure. One differential pressure is one screw.



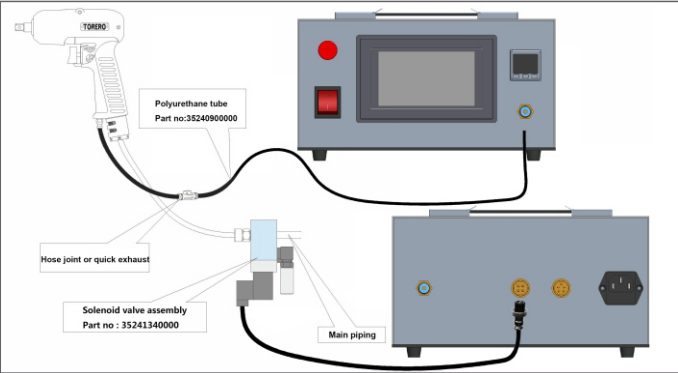
Order description : RE series can use different brand controllers.

Reference Diagram: Description

Air-cutoff type:



Stall type:



Pistol shut-off oil-pulse tool with a signal tube



Gas cutoff gun model

Gas Cutoff Gun Model Series

Model	Bolt size mm	Torque range Nm 0.5-0.6MPa	Square drive in	Free speed rpm			Length mm	Weight kg	Air inlet in	Rec. hose size mm	Air consumption m³/min	Noiselevel dB
				0.4MPa	0.5MPa	0.6MPa						
OBT-40PD-RE	5	4-12	3/8	-	3700	4000	160.5	0.92	PT 1/4	6.5	0.2	75
OBT-50PD-RE	5-6	7-16	3/8	-	4200	4500	160.5	0.92	PT 1/4	6.5	0.25	78
OBT-60PD-RE	8	16-32	3/8	-	5700	6000	170	0.95	PT 1/4	6.5	0.35	80
OBT-70PD-RE	8-10	30-50	3/8	-	5700	6000	183	1.05	PT 1/4	8	0.4	80
OBT-80PD-RE	8-10	40-65	3/8	-	5500	5800	187	1.25	PT 1/4	8	0.48	80
OBT-81PD-RE	10	40-65	1/2	-	5500	5800	192	1.25	PT 1/4	8	0.48	80
OBT-90PD-RE	10-12	42-85	1/2	-	4700	5000	192	1.45	PT 1/4	8	0.53	82
OBT-100PD-RE	12	75-130	1/2	-	4200	4500	198	1.7	PT 1/4	8	0.55	82
OBT-130PD-RE	12-14	110-150	1/2	-	4200	4500	215	2.3	PT 1/4	12.7	0.7	82
OBT-150PD-RE	14-16	130-210	3/4	-	3600	3900	243.5	2.9	PT 1/4	12.7	0.7	82
OBT-180PD-RE	16-18	165-260	3/4	-	2800	3000	262	3.7	PT 3/8	12.7	0.7	82
OBT-250PD-RE	16-20	225-450	3/4	-	-	3600	221	4.2	PT 3/8	13	1.4	85
OBT-40PH-RE	5	4-12	1/4	-	3700	4000	161	0.92	PT 1/4	6.5	0.2	75
OBT-50PH-RE	5-6	7-16	1/4	-	4200	4500	161	0.92	PT 1/4	6.5	0.25	78
OBT-60PH-RE	6-8	14-30	1/4	-	5700	6000	171	0.95	PT 1/4	6.5	0.35	80
OBT-70PH-RE	8	22-35	1/4	-	5700	6000	183	1.05	PT 1/4	8	0.4	80
OBT-80PH-RE	8-10	32-45	1/4	-	5500	5800	191	1.26	PT 1/4	8	0.48	80

Straight shut-off oil-pulse tool with a signal tube



Gas cutoff straight type

Gas Cutoff Straight Type Series

Model	Bolt size	Torque range Nm	Square drive	Free speed rpm			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBT-40SD-RE	5	4-12	3/8	-	4700	5000	218	0.83	PT 1/4	6.5	0.2	70
OBT-50SD-RE	5-6	7-16	3/8	-	5600	6000	218	0.83	PT 1/4	6.5	0.25	78
OBT-60SD-RE	8	16-35	3/8	-	5800	6200	228	0.87	PT 1/4	6.5	0.3	80
OBT-70SD-RE	8-10	30-48	3/8	-	5400	5800	240.5	0.95	PT 1/4	8	0.35	80
OBT-80SD-RE	8-10	35-60	3/8	-	6100	6500	246.5	1.2	PT 1/4	8	0.48	80
OBT-81SD-RE	10	35-60	1/2	-	6100	6500	251.5	1.25	PT 1/4	8	0.48	80
OBT-40SH-RE	5	4-12	1/4	-	4700	5000	220.5	0.83	PT 1/4	6.5	0.2	70
OBT-50SH-RE	5-6	7-16	1/4	-	5600	6000	220.5	0.83	PT 1/4	6.5	0.25	78
OBT-60SH-RE	6-8	16-32	1/4	-	5800	6200	230.5	0.87	PT 1/4	6.5	0.3	80
OBT-70SH-RE	8	22-35	1/4	-	5400	5800	240.5	0.95	PT 1/4	8	0.4	80
OBT-80SH-RE	8-10	28-43	1/4	-	6100	6500	230.5	0.87	PT 1/4	8	0.48	80

Angle shut-off oil-pulse tool with a signal tube and clutch tool



Gas cutoff elbow

Gas Cutoff Elbow Series

Model	Bolt size	Torque range Nm	Square drive	Free speed rpm			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBT-50SC-RE	5-6	7-15	3/8	-	4500	4700	258	1.28	PT 1/4	6.5	0.25	75
OBT-60SC-RE	6-8	13-28	3/8	-	5500	5800	270	1.35	PT 1/4	6.5	0.3	75
OBT-70SC-RE	8-10	27-45	3/8	-	3900	4200	289	1.63	PT 1/4	8	0.35	78
OBT-50SCH-RE	5-6	13-18	1/4	-	4500	4700	259	1.27	PT 1/4	6.5	0.25	75
OBT-60SCH-RE	6-8	16-23	1/4	-	5500	5800	270	1.32	PT 1/4	6.5	0.3	75
OBT-70SCH-RE	8	18-25	1/4	-	5000	5300	281	1.42	PT 1/4	6.5	0.35	78
OBT-70SC-1-RE	8	30-50	1/2	-	3900	4200	289	1.64	PT 1/4	8	0.35	78
OBT-75SC-RE	10	26-50	1/2	-	3800	4000	290	1.83	PT 1/4	8	0.35	78
OBT-80SC-RE	10	48-68	1/2	-	4300	4500	295	2	PT 1/4	8	0.35	80
OBT-80SC-1-RE	10	45-65	1/2	-	4200	4400	295	2	PT 1/4	8	0.35	80

Pistol, straight and angle non shut-off oil-pulse tool with a signal tube



Pistol non shut-off oil-pulse tool



Straight non shut-off oil-pulse tool



Angle non shut-off oil-pulse tool

Pistol non shut-off oil-pulse tool

Model	Bolt size	Torque range Nm	Square drive	Free speed rpm			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBN-30PD-RE	5-6	6-12	3/8	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-40PD-RE	6	13-22	3/8	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-50PD-RE	6-8	22-35	3/8	-	5700	6000	134	0.77	PT 1/4	6.5	0.25	78
OBN-60PD-RE	8-10	35-50	3/8	-	6200	6500	141	0.82	PT 1/4	6.5	0.4	80
OBN-70PD-RE	10	50-70	3/8	-	6200	6500	155	0.95	PT 1/4	8.0	0.45	80
OBN-80PD-RE	10	60-95	3/8	-	6500	6800	161.5	1.15	PT 1/4	8.0	0.48	80
OBN-81PD-RE	10-12	65-100	1/2	-	6500	6800	166.5	1.17	PT 1/4	8.0	0.48	80
OBN-90PD-RE	12	90-110	1/2	-	5200	5500	165	1.3	PT 1/4	8.0	0.53	82
OBN-100PD-RE	12-14	105-140	1/2	-	4200	4500	172	1.66	PT 1/4	8.0	0.58	80
OBN-130PD-RE	14	110-170	1/2	-	4000	4200	185	2.3	PT 1/4	12.7	0.65	82
OBN-150PD-RE	14-16	160-240	3/4	-	4000	4200	213.5	2.5	PT 1/4	12.7	0.7	82
OBN-180PD-RE	16-18	200-280	3/4	-	3300	3500	226.5	3.0	PT 3/8	12.7	0.7	82
OBN-30PH-RE	5-6	6-12	1/4	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-40PH-RE	6	13-20	1/4	-	3700	4000	131	0.7	PT 1/4	6.5	0.2	75
OBN-50PH-RE	6-8	22-35	1/4	-	6200	6000	134	0.77	PT 1/4	6.5	0.25	78
OBN-60PH-RE	8	30-40	1/4	-	6200	6500	142	0.82	PT 1/4	8.0	0.4	80
OBN-70PH-RE	8-10	35-45	1/4	-	6200	6500	155	0.95	PT 1/4	8.0	0.45	80
OBN-80PH-RE	8-10	42-62	1/4	-	6500	6800	170	1.18	PT 1/4	8.0	0.48	80

Straight non shut-off oil-pulse tool

Model	Bolt size	Torque range Nm	Square drive	Free speed rpm			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBN-40SD-RE	5-6	13-22	3/8	-	4700	5000	218	0.62	PT 1/4	6.5	0.23	75
OBN-50SD-RE	6-8	22-35	3/8	-	5200	5500	218	0.74	PT 1/4	6.5	0.35	78
OBN-60SD-RE	8-10	35-50	3/8	-	5600	6000	228	0.77	PT 1/4	6.5	0.45	80
OBN-70SD-RE	10	45-65	3/8	-	5600	6000	240.5	0.87	PT 1/4	8.0	0.45	84
OBN-80SD-RE	10	55-90	3/8	-	6600	7000	246.5	1.2	PT 1/4	8.0	0.48	80
OBN-81SD-RE	10-12	60-95	1/2	-	6600	7000	251.5	1.25	PT 1/4	8.0	0.48	80
OBN-40SH-RE	5-6	12-20	1/4	-	4800	5100	220.5	0.62	PT 1/4	6.5	0.23	75
OBN-50SH-RE	6-8	18-30	1/4	-	5200	5400	220.5	0.74	PT 1/4	6.5	0.35	78
OBN-60SH-RE	8	28-35	1/4	-	5600	6000	230.5	0.77	PT 1/4	6.5	0.45	80
OBN-70SH-RE	8-10	30-40	1/4	-	5600	6000	240.5	0.87	PT 1/4	8.0	0.45	84
OBN-80SH-RE	8-10	45-60	1/4	-	6600	7000	250	1.24	PT 1/4	8.0	0.48	80

Angle non shut-off oil-pulse tool

Model	Bolt size	Torque range Nm	Square drive	Free speed rpm			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	mm	0.5-0.6MPa		0.4MPa	0.5MPa	0.6MPa						
OBN-50SC-RE	5-6	15-22	3/8	-	4500	4700	256	1.22	PT 1/4	6.5	0.4	75
OBN-60SC-RE	6-8	20-30	3/8	-	5500	5800	264	1.27	PT 1/4	6.5	0.43	75
OBN-70SC-RE	8-10	37-55	3/8	-	5000	5300	285	1.6	PT 1/4	8.0	0.45	75
OBN-70SC-1-RE	10	40-58	1/2	-	5000	5300	285	1.62	PT 1/4	8.0	0.45	75
OBN-75SC-RE	10	45-62	1/2	-	3700	4000	290	1.82	PT 1/4	8.0	0.45	75
OBN-80SC-RE	10-12	60-85	1/2	-	-	3200	305.5	1.85	PT 1/4	8.0	0.5	75
OBN-80SC-1-RE	10	56-80	1/2	-	4300	4500	294	1.97	PT 1/4	8.0	0.5	75
OBN-50SCH-RE	5-6	10-18	1/4	-	4500	4700	256	1.2	PT 1/4	6.5	0.4	75
OBN-60SCH-RE	6-8	17-25	1/4	-	5500	5800	264	1.26	PT 1/4	6.5	0.43	75
OBN-70SCH-RE	8	18-29	1/4	-	5000	5300	277	1.4	PT 1/4	6.5	0.45	75

Straight reverse torque shut-off oil-pulse tool



Reverse torque oil-pulse tool is available for reverse bolt.



Reverse-Activated Auto-Gas-Cutoff Straight Tool(Suit for pressure 0.4-0.5MPa=58-72.5 psi)

Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.4-0.5MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBT-50SD-1	5-6	7-16	3/8	-	4700	-	218.0	0.83	PT 1/4	6.5	0.20	75
OBT-60SD-1	8	14-28	3/8	-	5700	-	228.0	0.87	PT 1/4	6.5	0.25	77
OBT-70SD-1	8-10	20-45	3/8	-	5600	-	240.5	0.95	PT 1/4	8	0.27	78
OBT-80SD-1	8-10	35-55	3/8	-	5600	-	246.5	1.20	PT 1/4	8	0.40	78
OBT-81SD-1	10	40-60	1/2	-	5600	-	251.5	1.25	PT 1/4	8	0.40	78

Pistol reverse torque shut-off oil-pulse tool

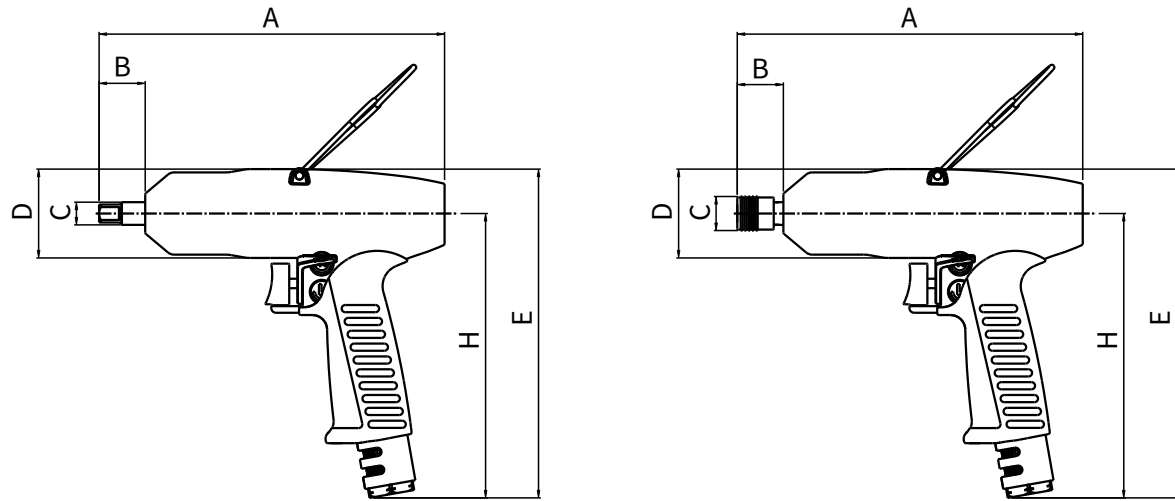


Reverse-Activated Auto-Gas-Cutoff Gun-Style Tool (Suit for pressure 0.4-0.5MPa=58-72.5 psi)

Model	Bolt size	Torque range	Square drive	Free speed			Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
		Nm		rpm								
	mm	0.4-0.5MPa	in	0.4MPa	0.5MPa	0.6MPa	mm	kg	in	mm	m³/min	dB
OBT-40PD-1	5	5-9	3/8	3200	3500	3800	160.5	0.92	PT 1/4	6.5	0.20	75
OBT-50PD-1	5-6	7-16	3/8	-	4500	-	160.5	0.92	PT 1/4	6.5	0.20	75
OBT-60PD-1	8	14-28	3/8	-	5700	-	170	0.95	PT 1/4	6.5	0.25	77
OBT-70PD-1	8-10	25-45	3/8	-	5600	-	183	1.05	PT 1/4	8	0.30	78
OBT-80PD-1	8-10	35-55	3/8	-	5700	-	187	1.25	PT 1/4	8	0.40	78
OBT-81PD-1	10	40-60	1/2	-	5700	-	192	1.25	PT 1/4	8	0.40	78
OBT-90PD-1	10	50-75	1/2	-	4600	-	192	1.45	PT 1/4	8	0.45	79
OBT-100PD-1	10-12	55-95	1/2	-	4200	-	198	1.70	PT 1/4	8	0.48	79
OBT-130PD-1	12	80-125	1/2	-	3600	-	215	2.30	PT 1/4	12.7	0.50	79

OBT and OBN series pistol sizes

Description : The shape size of OBT high pressure and low pressure oil-pulse tool series are same.



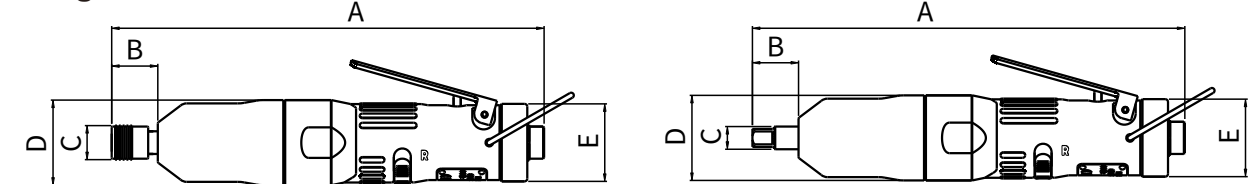
Unit: mm

Model	A	B	C	D	E	H
OBT- 40PD	160.5	23	12	45	171.5	149
OBT- 50PD	160.5	23	12	45	171.5	149
OBT- 60PD	170	21.5	12	45	171.5	149
OBT- 70PD	183	24	12	47	174	150.5
OBT- 80PD	187	26	12	52	180	154
OBT- 81PD	192	31	16	52	180	154
OBT- 90PD	192	30.5	16	54	182.5	155.5
OBT- 100PD	198	30.5	16	59	187.5	158
OBT- 130PD	215	30.5	16	64	202	170
OBT- 150PD	243.5	42	25	72	222.5	174
OBT- 180PD	262	43	25	78.5	238	186
OBT- 250PD	220.5	31	25	88	240	183.5
OBT- 40PH	163	23	12	45	171.5	149
OBT- 50PH	163	23	12	45	171.5	149
OBT- 60PH	172.5	21.5	12	45	171.5	149
OBT- 70PH	183	24	12	47	174	150.5
OBT- 80PH	187	26	18.5	52	180	154
OBN- 30PD	131	23	12	44	171	149
OBN- 40PD	131	23	12	44	171	149
OBN- 50PD	134	23	12	44	171	149
OBN- 60PD	141	21.5	12	44	171	149
OBN- 70PD	155	24	12	47	174	150.5
OBN- 80PD	161.5	26	12	52	180	154
OBN- 81PD	166.5	31	16	52	180	154
OBN- 90PD	165	30.5	16	54	182.5	155.5
OBN- 100PD	172	30.5	16	59	187.5	158
OBN- 130PD	185	30.5	16	59	187.5	158
OBN- 150PD	213.5	42	25	72	222.5	174
OBN- 180PD	226.5	43	25	78.5	238	186
OBN- 30PH	134	25.5	12	44	171	149
OBN- 40PH	134	25.5	12	44	171	149
OBN- 50PH	134	23	12	44	171	149
OBN- 60PH	141	25	12	44	171	149
OBN- 70PH	155	24	12	47	174	150.5
OBN- 80PH	161.5	26	18.5	52	180	154

OBT & OBN series straight and angle sizes

Description : The shape size of OBT high pressure and low pressure oil-pulse tool series are same.

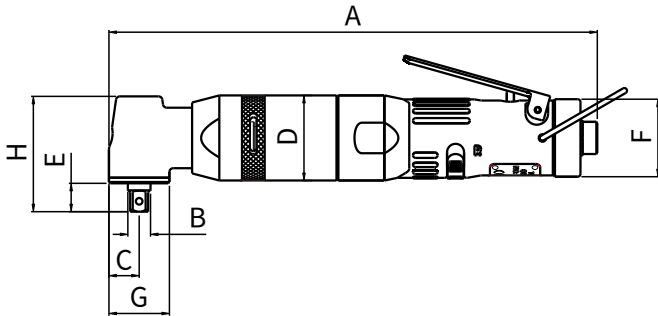
Straight size of OBT and OBN series:



Unit: mm

Model	A	B	C	D	E
OBT- 40SD	218	23	12	45	41
OBT- 50SD	218	23	12	45	41
OBT- 60SD	228	21.5	12	45	41
OBT- 70SD	240.5	24	12	47	41
OBT- 80SD	246.5	26	12	52	47.5
OBT- 81SD	251.5	31	16	52	47.5
OBT- 40SH	220.5	25.5	18	45	41
OBT- 50SH	220.5	25.5	18	45	41
OBT- 60SH	230.5	24	18	45	41
OBT- 70SH	240.5	24	18	47	41
OBT- 80SH	246.5	26	18.5	52	47.5
OBN- 40SD	218	23	12	45	41
OBN- 50SD	215	23	12	45	41
OBN- 60SD	228	21.5	12	45	41
OBN- 70SD	240.5	24	12	47	41
OBN- 80SD	246.5	26	12	52	47.5
OBN- 81SD	251.5	31	16	52	47.5
OBN- 40SH	220.5	25.5	18	45	41
OBN- 50SH	217.5	25.5	18	45	41
OBN- 60SH	230.5	24	18	45	41
OBN- 70SH	240.5	24	18	47	41
OBN- 80SH	246.5	26	18.5	52	47.5

Angle size of OBT & OBN series:



Unit: mm

Model	A	B	C	D	E	H	F	G
OBT- 50SC	258.5	12	16	45	15	61	41	32
OBT- 60SC	269.5	12	16	45	15	61	41	32
OBT- 70SC	285	12	18	47	15.5	70	41	36
OBT- 70SC- 1	285	16	18	52	20.5	70	41	36
OBT- 75SC	289	16	18	52	20.5	75	41	36
OBT- 80SC	305.5	16	22.5	52	20	78	47.5	45
OBT- 80SC- 1	310	16	18	52	20.5	75	47.5	36
OBN- 50SC	261.5	12	16	45	15	61	41	32
OBN- 60SC	269.5	12	16	45	15	61	41	32
OBN- 70SC	285	12	16	47	15.5	70	41	36
OBN- 70SC- 1	285	16	18	47	20.5	75	41	36
OBN- 75SC	289	16	18	52	20.5	75	41	36
OBN- 80SC	305.5	16	22.5	52	20	78	47.5	45
OBN- 80SC- 1	310	16	18	52	20.5	75	47.5	36

Straight non shut-off gear tool(Open-end)

Half-press trigger is automatically resetting.
Total-press trigger is tightened.

There are various hex sockets for choose. Customized is according to customer's requirement.

Reduction gear set

Socket geared type:

Geared arm can be 360° random installed.
A variety of general gear arms can be replaced according to requirements.

Light weight, small vibration and thinner.

12 or 6 angles Through hole type Blind hole lengthening

Through hole type: The hexagon is a through hole .Positive and opposite sides are the same.

Blind hole type: One side is the same as through-hole type Another side is blind hole with U-shaped incision

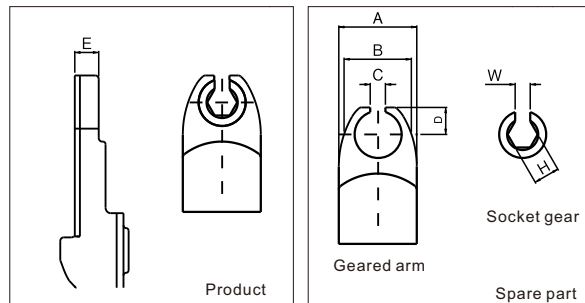
ORDER METHOD :

It need to note opposing edge size of socket gear after choosing a model.
For example :

Model	Opposing edge size of socket gear
OBN-50SW	8 or 9 or 10

Geared wrench open-end size

Product's front end consist of geared arm and socket gear. Same model tool is with same geared arm. It can be replaced with different size of socket gear.

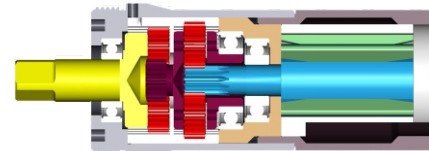


Specification :
The open-end size C on geared arm is larger than open-end size W of all socket gears that can be mounted on this part.
It only need oil tube's diameter is smaller than open-end size W of socket gear when choose socket gear.
The size H and W of socket gear can be customized by customer. But size W can't bigger than size C.

Product geared arm size :

Gear arm number	A	B	C	D	E
5	36	31	8.2	11.6	12
6	41	36.5	15	15.3	12
5-1	36	30.4	7	11	14
5-2	41	35.4	12	13	14
6-1	50	41.9	15	15	20
6-N	50	36.5	15	15	20
7-1	58.5	50.5	20	19	20
7-2	71	60.2	25	22	20

Structure diagram:



Socket gear open-end size :

Opposing edge size(H)	mm																											
	8	9	10	12	13	14	15	16	17	18	19	21	23	24	25	26	27	28	30	3/8	7/16	9/16	3/4	7/8	1	1/8		
Gear arm number																												
5	8	8	8	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	12	13	13	13	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-1	5	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	-	-	-	-	-	-	-
5-2	-	-	-	8	9	10	10	10	11	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-
6-1	-	-	-	-	-	-	-	-	13	13	13	13	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-
6-N	-	-	-	-	-	-	-	-	13	13	13	13	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-
7-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	-	-	-	-
7-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	21	21	21	23	-	-	-	-	-	-	22	-

Straight non shut-off gear tool(Open-end)



Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level	Gear arm number
	mm	in	Nm 0.5-0.6MPa	rpm	mm	kg	in	mm	m³/min	dB	
OBN-50SW	8 9 10	3/8" 7/16"	10-18	400-430	302	1.7	PT 1/4	6.5	0.35	76	5
OBN-50SW-6	12 13 14 15 16 17	9/16"	17-22	320-350	316	1.77	PT 1/4	6.5	0.35	76	6
OBN-50SW-5-1	8 9 10	3/8" 7/16"	10-18	400-430	302	1.7	PT 1/4	6.5	0.35	76	5-1
OBN-50SW-5-2	12 13 14 15 16 17	9/16"	17-22	320-350	316	1.77	PT 1/4	6.5	0.35	76	5-2
OBN-50SW-6-1	16 17 18	9/16"	13-18	370-400	329	2.2	PT 1/4	6.5	0.35	76	6-1
OBN-50SW-6-N	16 17 18	9/16"	13-18	370-400	329	2.18	PT 1/4	6.5	0.35	76	6-N
OBN-50SW-7-1	19 20 21 22 23 24	3/4" 7/8"	16-25	280-310	347	2.32	PT 1/4	6.5	0.35	76	7-1
OBN-50SW-7-2	25 26 27 28 29 30	1 (1/8)"	25-30	220-240	369	2.63	PT 1/4	6.5	0.35	76	7-2



Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level	Gear arm number
	mm	in	Nm 0.5-0.6MPa	rpm 0.5-0.6MPa	mm	kg	in	mm	m³/min	dB	
OBN-60SW	12 13 14 15 16 17	9/16"	17-25	300-320	323	1.8	PT 1/4	6.5	0.38	76	6
OBN-60SW-5	8 9 10	3/8" 7/16"	13-20	360-380	310	1.75	PT 1/4	6.5	0.38	76	5
OBN-60SW-5-1	8 9 10	3/8" 7/16"	13-20	360-380	310	1.75	PT 1/4	6.5	0.38	76	5-1
OBN-60SW-5-2	12 13 14 15 16 17	9/16"	17-25	300-320	323	1.8	PT 1/4	6.5	0.38	76	5-2
OBN-60SW-6-1	16 17 18	9/16"	14-20	340-360	335	2.24	PT 1/4	6.5	0.38	76	6-1
OBN-60SW-6-N	16 17 18	9/16"	14-20	340-360	335	2.22	PT 1/4	6.5	0.38	76	6-N
OBN-60SW-7-1	19 20 21 22 23 24	3/4" 7/8"	18-25	260-280	354	2.37	PT 1/4	6.5	0.38	76	7-1
OBN-60SW-7-2	25 26 27 28 29 30	1 (1/8)"	25-35	200-210	375	2.67	PT 1/4	6.5	0.38	76	7-2

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

Straight non shut-off geared oil-pulse tool(Open-end)

Open-end tool suit for quickly fastening the nuts of tube.

ORDER METHOD :

It need to note opposing edge size of socket gear after choosing a model.
For example :

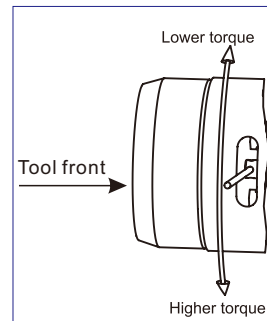
Model	Opposing edge size of socket gear
OBN-50SW-1	8 or 9 or 10

Half-press trigger is automatically resetting.
Total-press trigger is tightened.

There are various hex sockets for choose. Customized is according to customer's requirement.

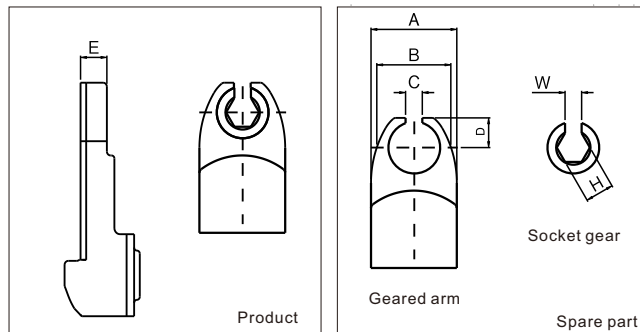
Inside is oil-pulse structure.
No reaction force

Geared arm can be 360° random installed.
A variety of general gear arms can be replaced according to requirements.



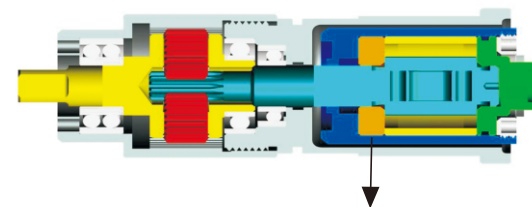
Geared wrench open-end size

Product's front end consist of geared arm and socket gear. Same model tool is with same geared arm. It can be replaced with different size of socket gear.



Specification :

The open-end size C on geared arm is larger than open-end size W of all socket gears that can be mounted on this part.
It only need oil tube's diameter is smaller than open-end size W of socket gear when choose socket gear.
The size H and W of socket gear can be customized by customer. But size W can't bigger than size C.



The front gear of oil pulse sets is driving by rotor. Oil pulse start-up assistance when tool is subjected by a torque. It can quickly increase tighten due to oil pulse compress. This structure emphasize no reaction force. (PAT.)

Product geared arm size :

Gear arm number	A	B	C	D	E
50-1	36	30.4	7	11	14
50-2	41	35.4	12	13	14
60-1	50	41.9	15	15	20
60-N	50	36.5	15	15	20
70-1	58.5	50.5	20	19	20
70-2	71	60.2	25	22	20

Socket gear open-end size :

Opening size(W) Opposing edge size(H)	Gear arm number	mm																												in							
		8	9	10	12	13	14	15	16	17	18	19	21	23	24	25	26	27	28	30	3/8	7/16	9/16	3/4	7/8	1 (1/8)											
	50-1	5	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	-	-	-	-											
	50-2	-	-	-	8	9	10	10	10	11	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-											
	60-1	-	-	-	-	-	-	-	13	13	13	13	-	-	-	-	-	-	-	-	-	-	13	-	-	-											
	60-N	-	-	-	-	-	-	-	13	13	13	13	-	-	-	-	-	-	-	-	-	-	15	-	-	-											
	70-1	-	-	-	-	-	-	-	-	-	-	-	15	18	18	-	-	-	-	-	-	-	-	15	15	-											
	70-2	-	-	-	-	-	-	-	-	-	-	-	-	-	21	21	21	21	23	-	-	-	-	-	-	22											

Straight non shut-off geared oil-pulse tool(Open-end)



OBN-50SW-1



OBN-50SW-2



OBN-50SW-60-1



OBN-50SW-60-N



OBN-50SW-70-1



OBN-50SW-70-2

Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level	Gear arm number
	mm	in	Nm	rpm	mm	kg	in	mm	m³/min	dB	
OBN-50SW-1	8 9 10	3/8".7/16"	12-18	400-430	350	1.9	PT 1/4	6.5	0.4	75	50-1
OBN-50SW-2	12.13.14.15.16.17	9/16"	12-18	300-350	364	1.98	PT 1/4	6.5	0.4	75	50-2
OBN-50SW-60-1	16 17 18	9/16"	16-24	350-400	376	2.36	PT 1/4	6.5	0.4	75	60-1
OBN-50SW-60-N	16 17 18	9/16"	16-24	350-400	376	2.36	PT 1/4	6.5	0.4	75	60-N
OBN-50SW-70-1	19 20 21 22 23 24	3/4" 7/8"	20-28	270-300	394	2.49	PT 1/4	6.5	0.4	75	70-1
OBN-50SW-70-2	25 26 27 28 29 30	1(1/8)"	25-40	220-250	416	2.79	PT 1/4	6.5	0.4	75	70-2

Socket geared type



12 or 6 angles Through hole type Through hole lengthening

Through hole type:The hexagon is a through hole .Positive and opposite sides are the same.

Gear arm number	Socket gear type
50	through hole type
60	through hole type
50-1 5-1	through hole type through hole lengthening
50-2 5-2	through hole type through hole lengthening
60-1 6-1	through hole type
60-N 6-N	through hole type
70-1(7-1)	through hole type
70-2(7-2)	through hole type

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :

Hard joint application : 70% of the maximum torque range in the catalogue.

Soft joint application : The minimum of the torque in the catalogue.

Straight non shut-off geared oil-pulse tool(Open-end)



OBN-60SW-1



OBN-60SW-N



OBN-60SW-50-1



OBN-60SW-50-2



OBN-60SW-70-1



OBN-60SW-70-2

Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level	Gear arm number
	mm	in	Nm	rpm							
OBN-60SW-1	16 17 18	9/16"	40-55	430-480	383	2.37	PT 1/4	6.5	0.43	76	60-1
OBN-60SW-N	16 17 18	9/16"	40-55	430-480	383	2.37	PT 1/4	6.5	0.43	76	60-N
OBN-60SW-50-1	8 9 10	3/8.7/16	18-25	470-520	350	1.94	PT 1/4	6.5	0.43	76	50-1
OBN-60SW-50-2	12 13 14 15 16 17	9/16"	32-42	380-400	372	2.0	PT 1/4	6.5	0.43	76	50-2
OBN-60SW-70-1	19 20 21 22 23 24	3/4" 7/8"	45-60	330-360	402	2.53	PT 1/4	6.5	0.45	76	70-1
OBN-60SW-70-2	25 26 27 28 29 30	1(1/8)"	55-75	270-290	423	2.83	PT 1/4	6.5	0.45	76	70-2



OBN-70SW-1



OBN-70SW-2



OBN-70SW-60-1



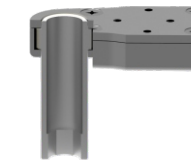
OBN-70SW-60-N

Model	Opposing edge size of socket gear		Torque range	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level	Gear arm number
	mm	in	Nm	rpm							
OBN-70SW-1	19 20 21 22 23 24	3/4" 7/8"	60(50)-(72)78	370-400	416	2.8	PT 1/4	6.5	0.45	76	70-1
OBN-70SW-2	25 26 27 28 29 30	1(1/8)"	82(65)-(82)105	290-320	437	3.1	PT 1/4	6.5	0.45	76	70-2
OBN-70SW-60-1	16 17 18	9/16"	45-60	470-530	397	2.64	PT 1/4	6.5	0.45	76	60-1
OBN-70SW-60-N	16 17 18	9/16"	45-60	470-530	397	2.64	PT 1/4	6.5	0.45	76	60-N

Sleeve gear type



Through-hole type



Through-hole extended type

Through-hole type: The hexagonal and dodecagonal holes are through-holes, with the front and back sides being identical.

Through-hole extended type: On the basis of the through-hole type, the sleeve gear is lengthened, so that after the tool is installed, the sleeve gear protrudes from the gear arm.

(the length can be customized according to customer requirements, but the protruding length cannot exceed 40mm).

Sleeve Gear Selection Table

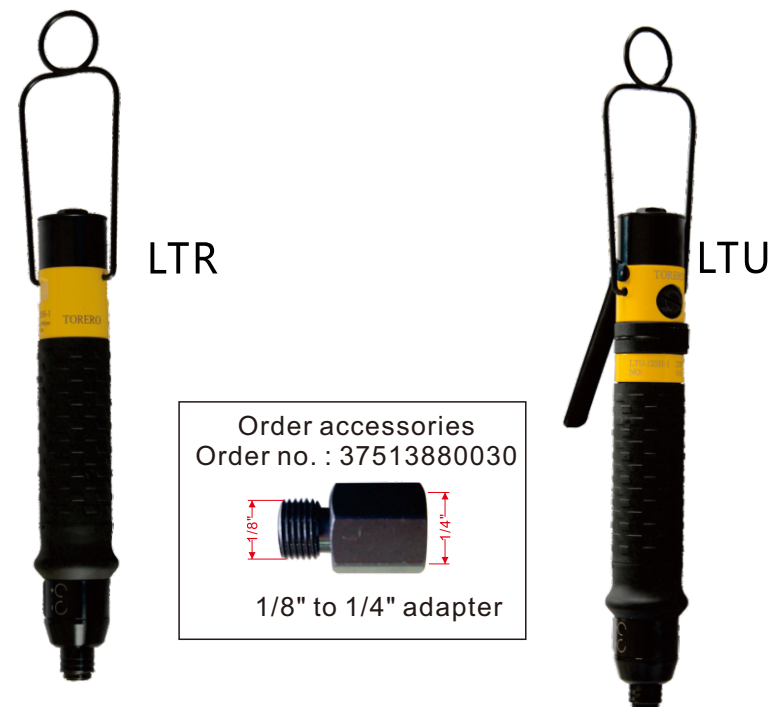
Direct drive tool:

Ratchet head number	Through-hole type socket specifications	Specifications of through-hole extended type socket
5	8、9、10	8、9、10
6	12、13、14、15、16、17	12、13、14
6-1	16、17、18	15、16
6-N	16、17、18	15、16
7-1	19、20、21、22、23、24	19、21、22
7-2	25、26、27、28、29、30	21、22、24、25、26、27、28

Hydraulic pulse tool:

Ratchet head number	Through-hole type socket specifications	Specifications of through-hole extended type socket
50-1	8、9、10	8、9、10
50-2	12、13、14、15、16、17	10、12、13、14
60-1	16、17、18	15、16
60-N	16、17、18	15、16
70-1	19、20、21、22、23、24	19、21、22
70-2	25、26、27、28、29、30	21、22、24、25、26、27、28

Straight shut-off clutch screwdriver tool



Order accessories
Order no. : 37513880030

1/8" to 1/4" adapter

The tool air inlet thread PF 1/8 is G 1/8. You can purchase 1/8" to 1/4" adapter if you need to turn air inlet to PT 1/4.

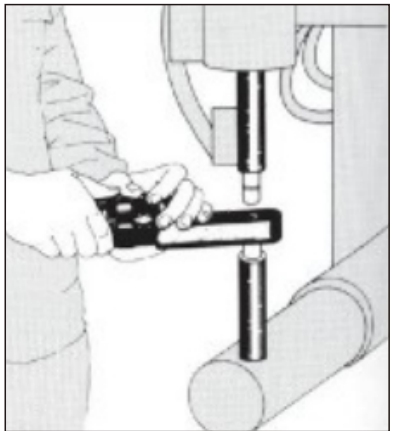
Touch trigger clutch tool

Model	Torque range	Square drive	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	Nm	in	rpm	mm	kg	in	mm	m ³ /min	dB
LTR-12SH-1	0.6-1.6	1/4	1900	195	0.55	PF 1/8	6	0.27	75
LTR-12SH-2	0.4-2.3	1/4	1450	195	0.55	PF 1/8	6	0.27	75
LTR-12SH-3	0.4-3.2	1/4	1000	195	0.55	PF 1/8	6	0.27	75
LTR-12SH-4	0.4-4.2	1/4	750	195	0.55	PF 1/8	6	0.27	75
LTR-12SH-5	0.4-5.0	1/4	450	195	0.55	PF 1/8	6	0.27	75
LTR-12SH-6	0.4-1.0	1/4	1900	195	0.55	PF 1/8	6	0.27	75

Safety trigger clutch tool

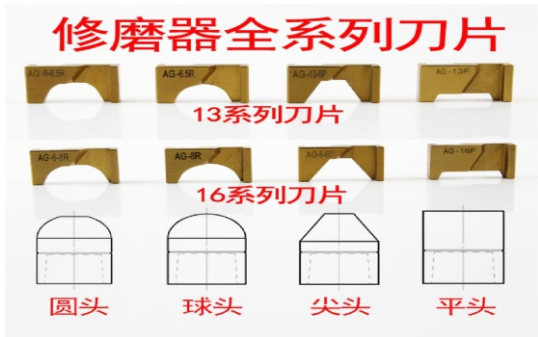
Model	Torque range	Square drive	Free speed	Length	Weight	Air inlet	Rec. hose size	Air consumption	Noise level
	Nm	in	rpm	mm	kg	in	mm	m ³ /min	dB
LTU-12SH-1	0.6-1.8	1/4	2200	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-2	0.5-2.5	1/4	1700	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-3	0.4-3.5	1/4	1200	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-4	0.4-4.5	1/4	850	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-5	0.4-1.0	1/4	2200	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-6	0.4-2.0	1/4	2200	217	0.6	PF 1/8	6	0.36	75
LTU-12SH-7	0.4-2.8	1/4	1700	217	0.6	PF 1/8	6	0.36	75

Pneumatic welding copper electrode dressing machine (suitable for dressing electrode tips)

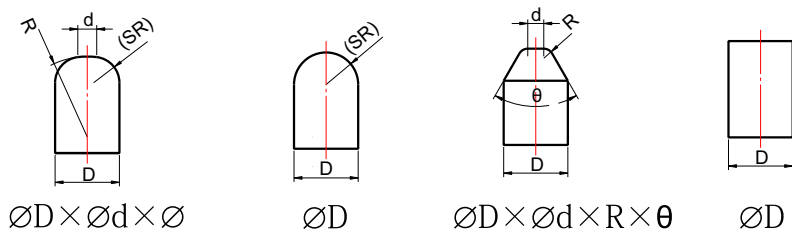


Milling insert

According to the size and shape of the electrode tip to be ground, the correct blade model is selected:



Please provide dimensions according to the following view instructions:



Model	Welding head diameter	Speed	Weight	Air pressure	Installation model	Pipe diameter
TW-2100	8-18MM	1300RPM	1.5KG	5-7kg/cm	PT-1/4	8-10MM

Note : Oil-pulse tool can reach torque will be slightly different as actual tightening torque. It will depend on condition of working area and joint situation. Testing the selected model in actual condition is advised. Please reference the following :
Hard joint application : 70% of the maximum torque range in the catalogue.
Soft joint application : The minimum of the torque in the catalogue.

TORERO digital torque tester

It is a torque tester for factory. It has 7 units - Ncm , Nm, kgf.cm, kgf.m, lbf.in, lbf.ft and Mpa. It can imitate soft and hard joint situation.



CUT-20-2



CUT-30-2



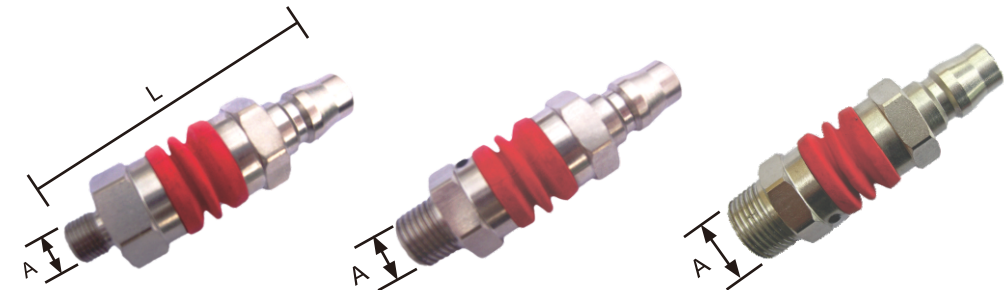
CUT-40-2

CUT-20-2		
Bolt	Torque range	Weight(kg)
M6	5-15	8.3
M8	15-35	
M10	35-54	
AC	110-220	

CUT-30-2		
Bolt	Torque range	Weight(kg)
M12	54-88	17
M14	88-148	
M16	148-190	
AC	110-220	

CUT-40-2		
Bolt	Torque range	Weight(kg)
M18	190-290	112
M20	290-440	
M24	440-680	
AC	110-220	

360°swirl coupler



Tube teeth quickly removal type			
Model	A	Specification	L
MS-01	1/8	Japan	57 mm
PT-04	1/4	Japan	64 mm
PT-07	3/8	Japan	64 mm

Special oil for oil-pulse tool and vacuum oiling machine



Capacity	Order Number
1L	42120001000
20L	42120002000

Air rotor : Lubricated and cleaned oil



Capacity	Order Number
1L	42121001000
20L	42121002000

Cylinder : Oil-pulse pressure special oil



Vacuum oiling machine

Order Number	42129000200
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Oil-pulse tool protective sheath

OBT, OBN series sheath can be purchased separately. Please refer to the form below for order number.



Body sheath



Handle sheath



Gear arm sheath

OBT Series

Model	Handle sheath	Body sheath
	Order No.	Order No.
OBT-40PD	35241810160	35122500000
OBT-40PH	35241810160	35122500000
OBT-50PD	35241810160	35122500000
OBT-50PH	35241810160	35122500000
OBT-60PD	35241810160	35242500000
OBT-60PH	35241810160	35242500000
OBT-70PD	35241810160	35362500000
OBT-70PH	35241810160	35362500000
OBT-80PD	35241810160	35482500000
OBT-81PD	35241810160	35482500000
OBT-90PD	35601810160	35602500000
OBT-100PD	35601810160	35632500000
OBT-130PD	35691810160	35662500000
OBT-150PD	35691810160	35692500000
OBT-180PD	35721810160	35722500000
OBT-250PD	35971810160	35972500000

Gear arm sheath

Model	Gear arm sheath
	Order No.
LTV-15SR	36501790000
LTV-15SA	36501790000
LTV-30SR-2	36541790000
LTV-30SA-2	36541790000
OBN-50PR	36501790000
OBN-60PR	36501790000
OBN-70PR	36501790000
OBN-60PR-1	36521790000
OBN-70PR-1	36521790000
OBN-70PR-2	36541790000
OBN-70PR-3	36551790000
OBN-50PA	36501790000
OBN-60PA	36501790000
OBN-70PA	36501790000
OBN-60PA-1	36521790000
OBN-70PA-1	36521790000
OBN-70PA-2	36541790000
OBN-70PA-3	36551790000

OBN series tool

Model	Handle sheath	Body sheath
	Order No.	Order No.
OBN-30PD	35081810010	35082500000
OBN-30PH	35081810010	35082500000
OBN-40PD	35081810010	35082500000
OBN-40PH	35081810010	35082500000
OBN-50PD	35081810010	35202500000
OBN-50PH	35081810010	35202500000
OBN-60PD	35081810010	35322500000
OBN-60PH	35081810010	35322500000
OBN-70PD	35441810010	35442500000
OBN-70PH	35441810010	35442500000
OBN-80PD	35441810010	35562500000
OBN-81PD	35441810010	35562500000
OBN-90PD	35621810010	35622500000
OBN-100PD	35621810010	35652500000
OBN-130PD	35681810010	35682500000

OBN series gear wrench

Model	Handle sheath	Body sheath
	Order No.	Order No.
OBN-50PR	35081810010	35202500000
OBN-60PR	35081810010	35322500000
OBN-70PR	35441810010	35442500000
OBN-60PR-1	35081810010	35322500000
OBN-70PR-1	35441810010	35442500000
OBN-70PR-2	35441810010	35362500000
OBN-70PR-3	35441810010	35442500000
OBN-50PA	35081810010	35202500000
OBN-60PA	35081810010	35322500000
OBN-70PA	35441810010	35442500000
OBN-60PA-1	35081810010	35322500000
OBN-70PA-1	35441810010	35442500000
OBN-70PA-2	35441810010	35362500000
OBN-70PA-3	35441810010	35442500000

Tool repair fixture



Air motor fixture :

It is a connected set which use for removing and assembling straight and pistol type tool.

It is used for maintenance rotor set.



Oil-pulse cylinder pressing plate fixture :

It is used for removing and assembling oil-pulse cylinder pressing plate of oil-pulse cylinder set.

It is used for maintenance Oil-pulse cylinder set.



Rear end plate fixture :

It is used for removing and assembling rear end plate of OBT pistol type tool.

It is used for maintenance balanced switch set.

Oil-pulse tool special repair kit

Oil-pulse tool special repair kit include easily broken spare parts : Rotor blades , Rotor blade spring , XO-ring , Base O-ring , Anvil base O-ring , Valve O-ring , Oil-pulse cylinder mandrel O-ring , Torque screw O-ring , Oiling screw O-ring , Pulse screw O-ring....and so on.

OBT series oil-pulse tool :

Model				Air motor set fixture Order no.	Hydraulic cylinder pressing plate fixture(Available for Pistol Shut- off) Order no.
Straight Non shut-off	Pistol Non shut-off	Straight Shut-off	Pistol Shut-off		
OUN-221SH		OUT-221SH		70500020000	70500019000
OUN-331SH	OUN-331PH	OUT-331SH	OUT-331PH	70500006000	70500018000
OUN-331SD	OUN-331PD	OUT-331SD	OUT-331PD		
OUN-441SH	OUN-441PH	OUT-441SH	OUT-441PH		
OUN-441SD	OUN-441PD	OUT-441SD	OUT-441PD		
	OUN-551PH				70500017000
	OUN-551PD				
	OUN-661PH				
	OUN-661PD				
OUN-551SH		OUT-551SH	OUT-551PH	70500016000	
OUN-551SD		OUT-551SD	OUT-551PD		
OUN-661SH		OUT-661SH	OUT-661PH		
OUN-661SD		OUT-661SD	OUT-661PD		
OUN-771SH	OUN-771PH	OUT-771SH	OUT-771PH	70500011000	70500013000
OUN-771SD	OUN-771PD	OUT-771SD	OUT-771PD		
OUN-881SD	OUN-881PD	OUT-881SD	OUT-881PD	70500012000	70500014000
	OUN-991PD		OUT-991PD	70500032000	70500024000
	OUN-1001PD		OUT-1001PD	70500033000	70500025000
	OUN-1301PD		OUT-1301PD	70500034000	70500023000

Model				Air motor set fixture Order no.	Hydraulic cylinder pressing plate fixture Order no.	Rear end plate fixture(Pistol) Order no.
Straight Non shut-off	Pistol Non shut-off	Straight Shut-off	Pistol Shut-off			
OBN-30SH	OBN-30PH			70500006000	35242650030	35242670030
OBN-30SD	OBN-30PD					
OBN-40SH	OBN-40PH	OBT-40SH	OBT-40PH			
OBN-40SD	OBN-40PD	OBT-40SD	OBT-40PD			
OBN-50SH	OBN-50PH	OBT-50SH	OBT-50PH			
OBN-50SD	OBN-50PD	OBT-50SD	OBT-50PD			
OBN-60SH	OBN-60PH	OBT-60SH	OBT-60PH			
OBN-60SD	OBN-60PD	OBT-60SD	OBT-60PD	35362660030	35362650030	35362670030
OBN-70SH	OBN-70PH	OBT-70SH	OBT-70PH			
OBN-70SD	OBN-70PD	OBT-70SD	OBT-70PD			
OBN-80SD	OBN-80PD	OBT-80SD	OBT-80PD	35482660030	35482650030	35602670030
OBN-81SD	OBN-81PD	OBT-81SD	OBT-81PD	35602660030	35602650030	
	OBN-90PD		OBT-90PD	35632660030	35632650030	
	OBN-100PD		OBT-100PD	35662660030	35662650030	
	OBN-130PD		OBT-130PD	35692660030	35692650030	
	OBN-150PD		OBT-150PD	35722660030	35722650030	35722670030
	OBN-180PD		OBT-180PD			

MODEL				Repair kit Order No.
OBT Series		Reverse torque series		
Pistol	Straight	Angle	Pistol type Straight type	
OBT-40PH	OBT-40SH		OBT-40PD-1	704500010
OBT-40PD	OBT-40SD			
OBT-50PH	OBT-50SH	OBT-50SC/OBT-50SCH	OBT-50PD-1 OBT-50SD-1	
OBT-50PD	OBT-50SD			
OBT-60PH	OBT-60SH	OBT-60SC/OBT-60SCH	OBT-60PD-1 OBT-60SD-1	704524010
OBT-60PD	OBT-60SD			704536010
OBT-70PH	OBT-70SH	OBT-70SC/OBT-70SCH/OBT-70SC-1	OBT-70PD-1 OBT-70SD-1	
OBT-70PD	OBT-70SD			
		OBT-75SC		
OBT-80PD	OBT-80SD	OBT-80SC/OBT-80SC-1	OBT-80PD-1 OBT-80SD-1	704635010
OBT-80PH	OBT-80SH			704548010
OBT-81PD	OBT-81SD		OBT-81PD-1 OBT-81SD-1	
OBT-90PD			OBT-90PD-1	704560010
OBT-100PD			OBT-100PD-1	704563010
OBT-130PD			OBT-130PD-1	704566010
OBT-150PD				704569010
OBT-180PD				704572010
OBT-250PD				704597010

MODEL			Repair kit Order No.
Series with Signal Tube			
Pistol	Straight	Angle	
OBT-40PH-RE	OBT-40SH-RE		704500010
OBT-40PD-RE	OBT-40SD-RE		
OBT-50PH-RE	OBT-50SH-RE	OBT-50SC/SCH-RE	
OBT-50PD-RE	OBT-50SD-RE		
OBT-60PH-RE	OBT-60SH-RE	OBT-60SC/SCH-RE	704524010
OBT-60PD-RE	OBT-60SD-RE		704536010
OBT-70PH-RE	OBT-70SH-RE	OBT-70SC/SCH-RE	
OBT-70PD-RE	OBT-70SD-RE		
OBT-80PD/PH-RE	OBT-80SD/SH-RE	OBT-80SC/80SC-1-RE	704548010
OBT-81PD-RE	OBT-81SD-RE		704560010
OBT-90PD-RE			704563010
OBT-100PD-RE			704566010
OBT-130PD-RE			704569010
OBT-150PD-RE			704572010
OBT-180PD-RE			

Model OBN series oil-pulse tool			Model OBN series oil-pulse with a signal tube tool			Repair kit Order No.
Pistol	Straight	Angle	Pistol	Straight	Angle	
	OBN-30SH					704605010
OBN-30PH			OBN-30PH			
OBN-30PD			OBN-30PD			
OBN-40PH	OBN-40SH		OBN-40PH	OBN-40SH		704508010
OBN-40PD	OBN-40SD		OBN-40PD	OBN-40SD		
OBN-50PH	OBN-50SH		OBN-50PH	OBN-50SH		
OBN-50PD	OBN-50SD	OBN-50SC	OBN-50PD	OBN-50SD	OBN-50SC	704520010
OBN-60PH	OBN-60SH		OBN-60PH	OBN-60SH		
OBN-60PD	OBN-60SD	OBN-60SC	OBN-60PD	OBN-60SD	OBN-60SC	704532010
OBN-70PH	OBN-70SH		OBN-70PH	OBN-70SH		
OBN-70PD	OBN-70SD	OBN-70SC	OBN-70PD	OBN-70SD	OBN-70SC	704544010
		OBN-75SC				704636010
OBN-80PD	OBN-80SD		OBN-80PD	OBN-80SD		
OBN-81PD	OBN-81SD	OBN-80SC	OBN-81PD	OBN-81SD	OBN-80SC	704556010
OBN-90PD			OBN-90PD			704562010
OBN-100PD			OBN-100PD			704565010
OBN-130PD			OBN-130PD			704568010

Model				Repair kit
Pistol type	Pistol 26°	Straight type	Straight 26°	Order No.
OBN-60PR	OBN-60PA	OBN-60SR	OBN-60SA	704532010
OBN-60PR-1	OBN-60PA-1	OBN-60SR-1	OBN-60SA-1	
OBN-70PR	OBN-70PA	OBN-70SR	OBN-70SA	704544010
OBN-70PR-1	OBN-70PA-1	OBN-70SR-1	OBN-70SA-1	
OBN-70PR-2	OBN-70PA-2	OBN-70SR-2	OBN-70SA-2	
OBN-70PR-3	OBN-70PA-3	OBN-70SR-3	OBN-70SA-3	
		OBN-80SR		704556010
		OBN-80SR-1		



What is torque

Torque is distance x force or anvil rotary force .
Torque unit : kg-cm , lb-in , N-m

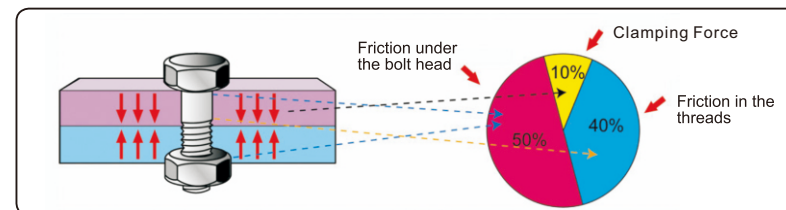
It need to think over below elements before testing torque.

1. Material :

Materials will decide bolts type, tighten tool and tighten size of force. The commonly used materials are iron, aluminum, plastic and wood...and so on.

2. Friction :

In order to ensure working quality of assembly line and be controlled to achieve consistency. It need to think over the influence of frictional force generated by the joint surface. Such as frictional force are created by screw bearing surface, bolt thread and gasket. It generally will loss 90% torque by friction in screw tightening process. It only 10% torque is used to tighten screws.



Concept of torque control

The industrial assembling lines' engineers are still looking for suitable solution of efficient controlled torque today. They are very important elements from selecting tools to producing line design. It can effectively reduce labor costs and improve product quality if concept of torque control can be implemented in produced department. This is industrial upgrading must be implemented policy.

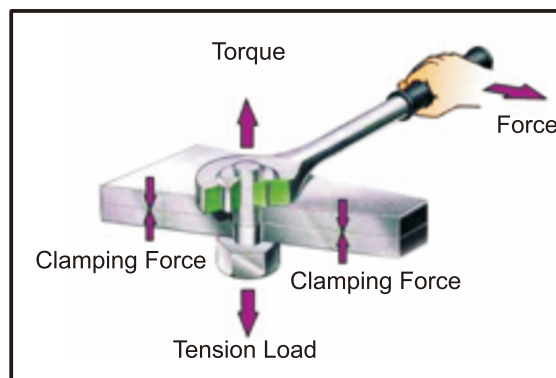
Assembling screw is an important process at assembling production line. Its mainly analysis point is using how many "clamping force" in locking operation. The traditional pneumatic tools couldn't meet assembling market demand in the international standardization coming today. How to select "correct" tool. It will be the key to improve industrial competition.

The concept of tighten screw :

It's still very common that screws (nuts, bolts and so on) are used in professional assembling process. It must think don't hurt main parts and bolt threads in process to use screws assembling , tighten or loosen.

Three elements of mainly affect screw assembling process:

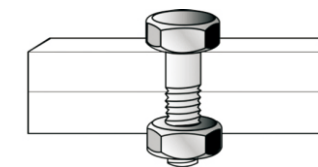
Screws , joint material , tool type



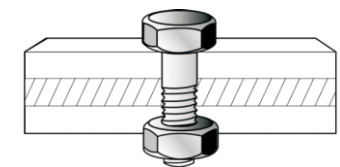
P.S. Clamping force : Two same or different materials closely bind together force.

Joint material type

1. Hard joint type : It use screws to tighten hard materials. This connected method more don't affect the setting of tightening torque.
2. Soft joint type : It use screws to tighten more soft materials. It need to turn one more circle to tighten materials. It need to properly increase the torque value for tightening.

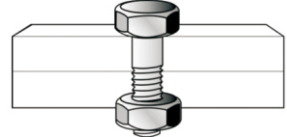
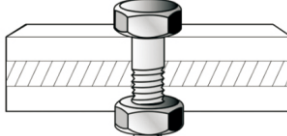
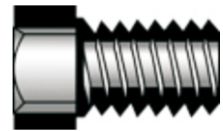


Hard joint



Soft joint

Tool selection and scope

Applicability	Applicability Statement
Hard joint 	1. Hard joint : Metal to metal directly connect. 2. Tighten process : Light torque screwed into and fast tighten. 3. Applicability : It is very suitable for using oil-pulse tools
Soft joint 	1. Soft joint : Between metals connect washer or metal connect with soft material. 2. Tighten process : Light torque screwed into and gradually tighten. 3. Applicability : It suit for using oil-pulse tools. It will increase times of maintenance. (oil change) if soft joint compare with hard joint.
Mechanical tooth screws 	Best
Triangle screws Self-locking Self-attack 	Good
Self-attack/Drilling screws/ Wood working screws 	Poor : These screw threads are less suitable for oil- pulse tools.

Application and comparison of oil-pulse tool

TORERO SHUT-OFF SERIES AND NON SHUT-OFF SERIES

Available for non shut-off oil-pulse tools' conditions :

1. Hard joint and soft joint bolts combined sets.
2. The extended couplers , larger tolerances of sockets or universal socket are less suitable for shut-off oil-pulse tools.(Torque transmission will be affected.)
3. The assembling lines' assembly space or operator have the lightest weight required.
4. Assemblies require accuracy and tolerances that can accept non shut-off oil-pulse tools' accuracy.
5. Budget consideration.

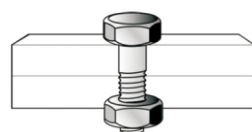
Available for shut-off oil-pulse tools' conditions :

1. Specified by Engineers.
2. he connected materials of soft joint don't beyond 180° which will be more available for shut-off tools.
3. It reduce training operators and related influence.

HARD JOINT AND SOFT JOINT

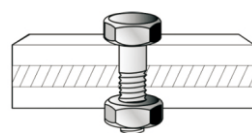
1. Hard joint : It mean that both screw shaft surface and object surface connect each other by the "snag torque of pre-tightening. The torque applied is atisfied until object is tightened. The screw rotating degree is under or equal to 60°.
2. Soft joint : It mean that both screw shaft surface and object surface connect each other by the "snag torque of pre-tightening. The torque applied is satisfied until object is tightened. The screw rotating degree is larger than 360° or equal to 360°.
3. Snag torque : It mean that the torque beyond the bolt thread and object surfaces' friction to make bolts start to create axis force to connect objects.

It is best effective when use hard joint.

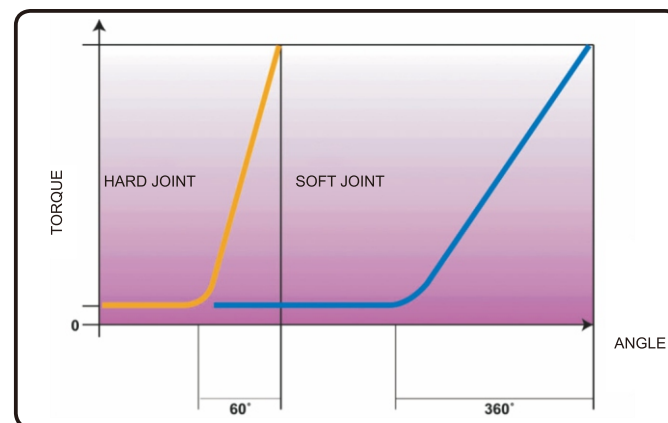


Hard joint

Please don't beyond 360° when use on soft joint. Otherwise the tools' efficiency will become worse. It had better choose a larger torque tool for soft joint.



Soft joint



Specification

Model :

Please kindly verify model no. when you order.

Bolt diameter (Reference) :

If actual torque value isn't clear when choose tool. Please kindly refer bolt diameter for choosing correct model. Please refer this page - standard bolt-tightening torque list for applicable torque value of each bolt diameter.

Torque range :

The torque value is testing at standard environment and on torque testing machine.

Socket or bit :

It is the shape and size of output shaft.

Socket gear opposing size :

It means that can correspond to both faces' width for hex. socket of gear wrench. This tool type is equipped with a tightening hexagonal socket. It need to specify size if you order.

No load speed :

No load speed is numbers of turning per minute. The testing standard is 0.63 Mpa(6.3 bar , 90 psi) at no load situation.

Working pressure :

It means the best pressure for tool working.

Standard bolt -- Tighten torque list :

Bolt level Torque(Nm) specification	3.6	4.6	4.8	5.8	8.8	10.9	12.9	Bolt level Torque(Nm) specification	4.6	4.8	5.8	8.8	10.9	12.9
M2	0.10	0.13	0.17	0.22	0.35	0.49	0.58	M18	103	121	172	275	386	463
M3	0.35	0.46	0.61	0.77	1.20	1.70	2.10	M20	144	170	240	385	541	649
M4	0.81	1.10	1.40	1.80	2.90	4.00	4.90	M22	194	230	324	518	728	874
M5	0.60	2.20	2.95	3.60	5.70	8.10	9.70	M24	249	295	416	665	935	1120
M6	2.80	3.70	4.90	6.10	9.80	14.0	17.0	M27	360	435	600	961	1350	1620
M8		8.9	10.5	15	24	33	40	M30	492	590	819	1310	1840	2210
M10		17	21	29	47	65	79	M36	855	1030	1420	2280	3210	3850
M12		30	36	51	81	114	136	M42	1360		2270	3640	5110	6140
M14		48	58	80	128	181	217	M45	1690		2820	4510	6340	7610
M16		74	88	123	197	277	333	M48	2040		3400	5450	7660	9190

Unit transformed table

Torque :

UNIT	Ncm	Nm	kgf.cm	kgf.m	lbf.in	lbf.ft
Ncm	1	0.01	0.102	0.00102	0.008851	0.007376
Nm	100	1	10.2	0.102	8.8	0.74
kgf.cm	9.807	0.09807	1	0.01	0.868	0.07233
kgf.m	980.7	9.807	100	1	86.8	7.233
lbf.in	11.3	0.113	1.152	0.01152	1	0.08333
lbf.ft	135.6	1.356	13.83	0.1383	12	1

Air pressure ::

UNIT	Mpa	Bar	kgf/cm ²	psi
Mpa	1	10	10.2	145
Bar	10	1	1.02	14.5
kgf/cm ²	0.09807	0.9807	1	14.22
psi	0.006895	0.06895	0.07031	1

Power :

UNIT	kw	kgf m/s	PS	HP
kw	1	102	1.36	1.341
kgf m/s	0.009807	1	0.01333	0.01313
PS	0.7355	75	1	0.9863
HP	0.7457	76.04	1.014	1

