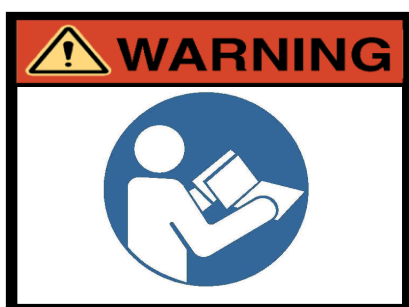


UL series

Non Shut-off

Hydraulic Impulse Tools

Instruction Handbook



-Read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on or working near the hydraulic impulse tool.
Failure to follow the warnings and instructions in this handbook can result in serious bodily injury.

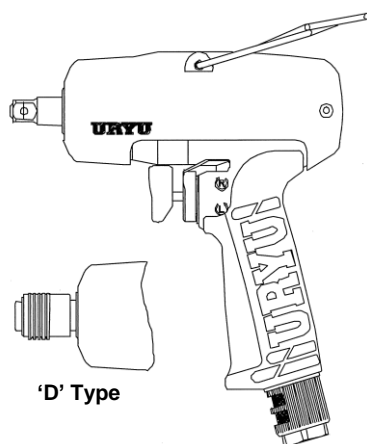
-Do not discard the safety and operating instructions.
Give them to the operator.
Save these instructions for future reference.

Intended Use : The tool is designed to tighten or loosen threaded fasteners.

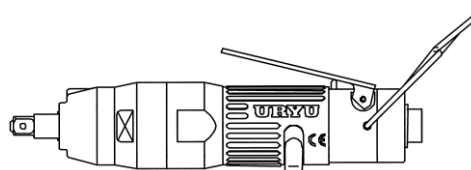
-The tool is intended for professional use only.

-Avoid misuse and abuse of the tool.

(e.g. Do not throw the tool on the floor, strike the housing in any way or use the tool as a hammer to knock material into place.)



UL Series



UL-S Series

 **URYU SEISAKU, LTD.**

1-2-11, Fukae-Minami, Higashinari, Osaka, 537-0002, Japan

Tel : +81 (0)6 6973 9415

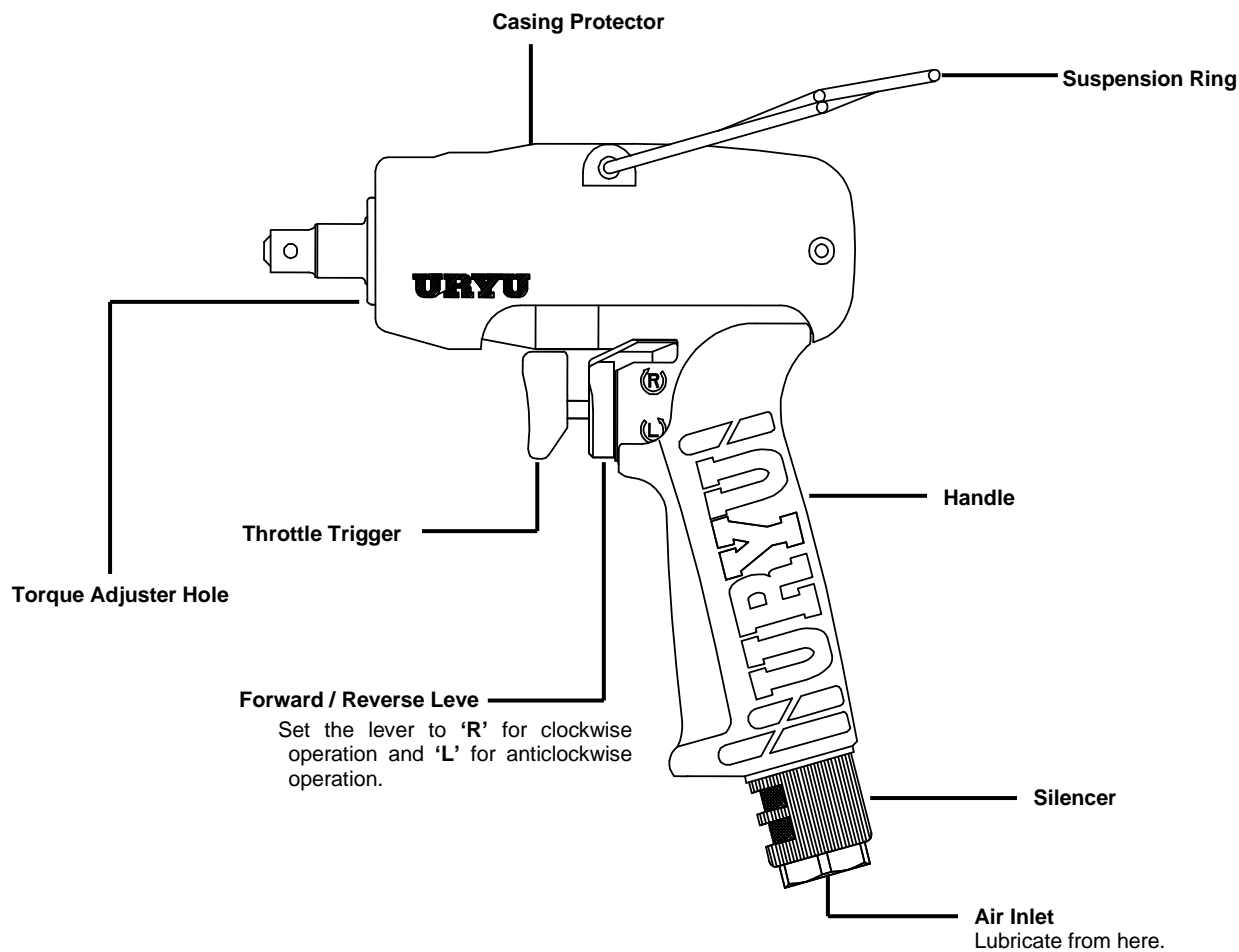
Fax : +81 (0)6 6972 0346

Email: uryuair@uryu.co.jp

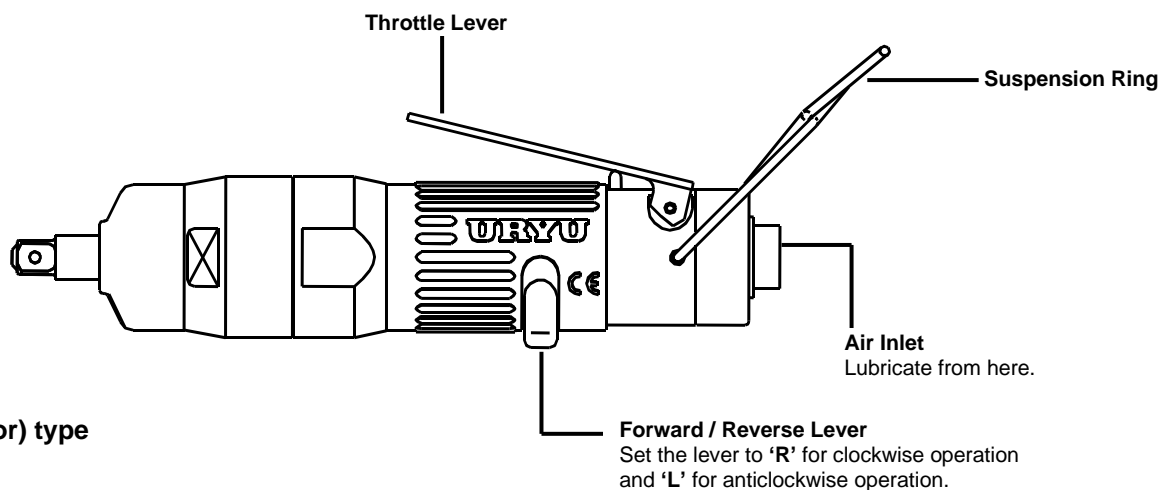
www.uryu.co.jp/english

Description of Functions

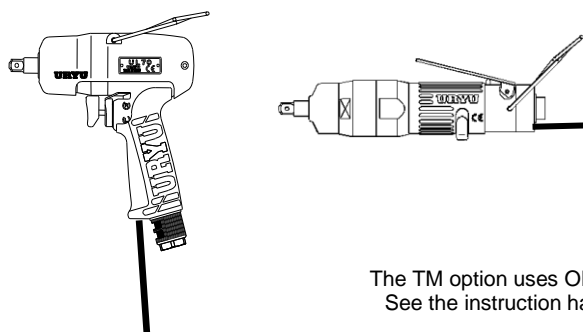
Pistol Type



Straight Type



TM (Tightening Monitor) type



The TM option uses ON/OFF signal of trigger for the optional UTM-1500, Fastening Counter.
See the instruction handbook for UTM-1500 for further information.

Safety Instructions

General Safety

- Only qualified and trained operators should install, adjust or use the tool. Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
- Do not modify the tool. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator.
- Stop using the tool if discomfort, tingling feeling or pain occurs.

Work Area Safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not use the tool in potentially explosive atmospheres, such as in the presence of flammable liquids, gases or dust. The tool is not insulated from coming into contact with electric power. Proceed with care in unfamiliar surroundings. Hidden hazards may exist.
- Always secure workpiece. Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the workpiece by hand or against your body is unstable and may lead to loss of control.
- Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line.
- Keep bystanders, children and visitors away while operating the tool. Distraction can cause you to lose control.

Pneumatic Safety

- Do not exceed the maximum air pressure stated on the tool.
- Always shut off air supply, drain hose of air pressure and disconnect the tool from air supply when not in use, when making repairs or before changing accessories. Plug the air inlet when not in use.
- Use correct hoses and always check for damaged or loose hoses and fittings. Whipping hoses can cause severe injury.
- An accessible means to shut off air supply should be provided at each tool station.
- Do not use quick-disconnect couplings at tool inlet. Use hardened steel (or material with comparable shock resistance threaded hose fittings).
- Whenever universal twist couplings (claw couplings are used, install lock pins and use whipcheck safety cables to safeguard against possible hose-to-tool and hose-and-hose connection failure.
- Do not abuse the hose. Never use the hose for carrying, pulling or hanging the tool.
- Keep the hose away from heat, oil, sharp edges or moving parts. Damaged or entangled hoses increase the risk.
- Release the throttle trigger / lever in the case of an interruption of the air supply.
- Never direct air at yourself or anyone else.

Personal Safety

- Stay alert, watch what you are doing and use common sense when operating the tool. Do not use any tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating a tool may result in serious personal injury.
- Maintain a balanced body position and secure footing. Avoid awkward or off-balanced postures. Change the posture during extended tasks, which may help to avoid discomfort and fatigue. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation or stiffness, the operator should tell the employer and consult a qualified health professional immediately.
- Prevent unintentional or inadvertent start. Ensure that the throttle trigger / lever is in the off-position before connecting the tool to air supply, picking up or carrying the tool. Carry the tool only by the handle. Carrying the tool with your finger on the throttle trigger / lever or energising the tool that has the throttle trigger / lever on invites accidents.
- Never hold the drive socket / bit or drive extension. Keep hands away from rotating drives.
- Dress properly. Do not wear loose clothing, jewellery and neck ware. Keep your hair, clothing and gloves away from all moving parts.
- Use personal protective equipment such as dust mask, non-skid safety shoes and hard hat as instructed by the employer and as required by occupational health and safety regulations.
- Wear suitable gloves to protect hands against hazards such as crushing, impacts, cuts and abrasions and heat. Do not wear loose fitting gloves or gloves with cut or frayed fingers. When using gloves, always be sure that the gloves will not prevent the throttle mechanism from being released.



- Always wear impact-resistant eye protection during the operation of the tool. The grade of protection required should be assessed for each use.



- Remove any adjusting wrench before turning the tool on. A wrench that is left attached to a rotating part of the tool may result in personal injury.



- Ensure that the workpiece is securely fixed.

- Do not use the tool in confined spaces. Beware of crushing hands between the tool and workpiece, especially when unscrewing.

- Keep clear of pinch point between the tool, support handle and any fixed object in the work area.

Noise

Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems such as tinnitus (ringing, buzzing, whistling or humming in the ears). Risk assessment and implementation of appropriate controls for these hazards are essential. Note: ISO 9612 describes the guidelines for the measurement and assessment of exposure to noise level at the workplace.



- Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations. Look after your hearing protection.

- Always ensure that the silencer is in place and in good working order when the tool is operating.

Vibration

Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the tool, tell the employer and consult a physician immediately.

Note: The procedures of ISO 5349 are required when exposure at the workplace is to be assessed.

- Support the weight of the tool in a stand, tensioner or balancer if possible.
- Hold the tool with a light but safe grip taking account of the required hand reaction forces. The risk from vibration is generally greater when the grip force is higher.
- Wear warm clothing when working in cold conditions and keep your hands warm and dry. Direct cold air away from the hands.
- Use sleeve fittings where practicable.

Dust and Fumes

Dust and fumes generated when using the tool can cause ill health (e.g. cancer, birth defects, asthma and/or dermatitis).

Risk assessment and implementation of appropriate controls for these hazards are essential.

- Direct the exhaust so as to minimise disturbance of dust in a dust-filled environment. Where dusts or fumes are created, the priority shall be to control them at the point of emission.

Residual Risks

- Gloves can become entangled with the rotating drive, causing severed or broken fingers. Rotating drive sockets and drive extensions can easily entangle rubber coated or metal reinforced gloves.
- Additional residual risks may arise when using the tool which may not be included in the safety warnings. These risks can arise from misuse, prolonged use and so on. Even with the application of the relevant safety regulations and the implementation of safety devices, certain residual risks cannot be avoided. (e.g. injuries caused when changing any parts, blades or accessories)

Tool Use and Care

- Hold the tool correctly: be ready to counteract normal or sudden movements – have both hands available.
- Keep the tool dry and clean – free from oil and grease for better control of the tool.
- Do not force the tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.
- Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool operation. If damaged, get the tool repaired before use.
- Select and maintain and replace the socket / bit properly to prevent an unnecessary increase in noise / vibration level(s).
- Socket retainer pin and ring are consumable parts. Check and replace them if worn or damaged.
- Clean the exhaust silencer and filter frequently or replace in order to prevent clogging and decreased power.
- Store the tool out of the reach of children and do not allow persons unfamiliar with these instructions to operate the tool. Tools are dangerous in the hands of untrained users.

Operating Instructions

Air Pressure

- UL30 series – UL150 series are designed to be operated at the air pressure of 0.5MPa - 0.6MPa.
- The air pressure at the tool air inlet shall not exceed the maximum air pressure of 0.6MPa.

Air Hose and Fitting

- Use the correct hoses and fittings for safety operation and optimum performance. See 'technical specifications' for air hose sizes and air inlet threaded.
- Blow out the air hose before connecting a tool.

Dry and Clean Air

- Air filter and oil-fog lubricator should be preferably installed in a position within 5m from the tool.
- Dust, wear particles, corrosive fumes and excessive moisture cause rust and sticking of vanes and ruin the motor.

Socket / Bit

- Use impact sockets / power bits in good condition. Worn or ill-fitting sockets / bits reduce power. Replace worn sockets / bits to prevent vibration, loss in torque output, poor accuracy and damage to the output drive. Poor condition or hand sockets / bits and accessories can shatter and become a projectile.
- Connect female square drive socket and anvil by depressing retainer pin for UL30 series - UL150 series.
- For UL-D series fitted with quick change chuck, pull bit sleeve and insert or remove 1/4" hexagon bit (see figure 1). See 'technical specifications' for drive shank sizes.
- A Heavy socket and / or accessories may cause premature shut-off. Consult your local distributor or URYU for proper sockets.

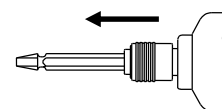


Figure 1

Forward / Reverse Lever

- Set forward / reverse lever to 'R' for clockwise operation and to 'L' for anticlockwise operation.
- Note the position of the reverse mechanism before operating the tool. Be aware of the direction of rotation.

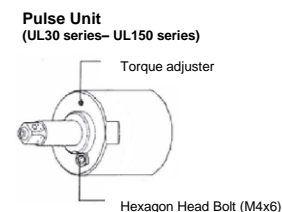
Torque Adjustment in forward rotation (clockwise) only

- For accurate operation and safety, the tightening torque of the tool must be set correctly in relation to the joint.

Notice: Make all final adjustments at the job.

- See 'technical specifications' for adjustable torque range.
- Disconnect the tool from air supply before torque adjustment.
- Remove the hexagon head bolt (M3x6) and regulator valve cover.
- Turn the torque adjuster clockwise to increase torque and anticlockwise to decrease torque output.
- Note: Turn torque adjuster clockwise until it bottoms out to set the maximum torque.

- On UL30 series - 50 series, adjust torque output through the anvil. Use the torque adjuster attachment for torque adjustment on UL30D series - UL50D series (see figure 3).



Note: Do not touch the hexagon head bolt. Removal of hexagon head bolt will result in leakage and the tool requiring service.

Figure 2

Throttle Trigger / Lever

- Grip the handle firmly and pull the throttle trigger or depress the throttle lever firmly until the screw is tightened.
- Release finger from the throttle trigger / lever to stop operation. Do not operate the tool any longer than necessary.

Exhaust Air

- The direction of the exhaust air is adjustable for eye and ear protection. Silencer turns for your adjustment.

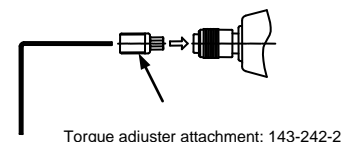


Figure 3

Suspension Device

- When using a suspension ring, check that it is in good condition and correctly assembled.

Warm Up

- Should the tool be left for some periods especially at low temperatures below 5°C, initially the tool may not deliver tightening force. This can be remedied by cycling the tool on a test fixture or by fixing the anvil on a vice and agitating the pulse unit for approximately 10 seconds, which will preheat the pulse unit.

Maintenance Instructions

- Continuous satisfactory operation depends upon proper tool care and regular maintenance.
- Get the tool serviced by a qualified repair person.
- Use URYU genuine parts for replacement. This will ensure that the safety and the optimum performance of the tool is maintained.

Lubrication

- It is important to lubricate regularly to get maximum performance and trouble-free operation.
- For air motor, supply light turbine oil, ISO VG32 properly through air inlet (see table 1-A) or line lubricator (see table 1-B).
- For air motor bearings, coat one-third of the bearing with high quality grease, Multemp PS No. 2 (see table 2) or equivalent.
- Do not lubricate the tool with flammable or volatile liquids such as kerosene, diesel or jet fuel.

Overhaul

- After every 100,000 fasteners or 3 months, whichever comes earlier, it is recommended to drain and refill the pulse unit and grease the bearings in the air motor (see table 2). Do not substitute any other fluid. Failure to use the oil specified by URYU could damage the tool, increase maintenance and decrease performance. If the presence of water is noted, it is recommended that a small amount of oil should be run through the air motor to wash out any rust residue in the motor.
- After every 200,000 fasteners or 6 months, the pulse unit should be inspected carefully. Inspect hard parts for damages or wearing. Replace damaged parts. All sealing parts (i.e. SU-ring, O-rings and supporter rings) and consumable parts (i.e. driving blade springs) in the pulse unit each time you disassemble the pulse unit. Also replace shut-off valve spring with a new one when you overhaul the tool.
- More frequent overhaul may be needed when the tool is used in heavy duty condition. Preventative maintenance cycle should be set from your own experience of the way the tool behaves, e.g. based on maintenance records and through examination reports.
- The exhaust silencer and filter should be cleaned frequently or replaced between the preventative maintenance cycles.
- If the tightening torque tends to drop by more than 10% from the preset torque, oil volume in the pulse unit may have become lower. The pulse unit needs overhauling. Do not try to increase torque by the torque adjuster as sudden torque drop may occur.
- Ensure that any labels on the tool are kept in legible condition. Replace any damaged label.

Disposal of Tool



-Separate collection of used tools and packaging allows materials to be recycled and used again. Re-use of recycled materials helps to prevent environmental pollution and reduces the demand for raw materials. The tool is made of steel, aluminium alloy, casting iron, plastic and rubber. Disassemble the tool, degrease and separate parts by material. When disposing of the tool, make sure not to cause pollution to human being and the environment. Follow your local laws and regulations relating to disposal.

Service Manual

General Instructions

- Refer to the parts list supplied along with the tool.
- Use correct jigs for proper service. Contact the nearest URYU distributor or URYU Japan for jigs.
- When grasping a tool or part in a vice, always use leather-covered, copper-covered or Bakelite-covered vice jaws to protect the surface of the part and help to prevent distortion. This is particularly true of threaded parts and housings.
- Use a sheet of P320 or finer grit sandpaper to resurface parts.
- Use a specified sized glass syringe to remove a specified amount of oil from a pulse unit.

Pulse Unit

Dis-assembly:

1. Remove the front casing (left-hand thread) from the tool.
2. Remove the anvil front spacer from the pulse unit and the pulse unit from the handle.
3. Place the pulse unit in the stand jig for holding pulse unit and applying the specified amount of press load to the pulse unit, remove the liner casing cover (right-hand thread).
4. While holding the pulse unit with the anvil up, tap on the anvil with a dead blow hammer to remove the rear liner plate, anvil, driving blades, driving blade rollers. The oil in the pulse unit flows out while disassembling the pulse unit.
5. Remove relief valve.
6. Separate the front liner plate and liner.
7. Remove all O-rings, SU-ring and supporter rings. Clean and inspect all parts. Resurface only those parts having burrs on them. Adhere a sheet of sandpaper to a flat work surface and put a small amount of honing oil as a buffer on it. Move a part round on the sandpaper in a figure of eight motion. If any parts show deep grooving or surface wear, replace them.

Assembly:

1. Replace all O-rings, SU-ring, supporter rings and springs to rebuild the pulse unit. Lubricate all sealing materials with the oil specified by URYU.
2. Install the O-ring on the relief valve using the jig to install O-ring and install the relief valve into the liner.
3. Be careful not to cut the O-ring on the relief valve.
4. Install the O-ring and supporter ring into the relief valve and install the relief valve into the liner.
5. Install the SU-ring and supporter ring into the liner.
6. Install the driving blade springs, driving blades and driving blade rollers into the anvil and into the jig to install driving blade.
7. Put the proper anvil sleeve fixture over the drive end of the anvil and install the anvil into the liner and through the front liner plate removing the jig to install driving blades. As you do this, make sure to keep the nylon piece of the jig to install driving blades tightly against the anvil and remove the outer jig.
8. Install the locator pin into the liner.
9. Install the O-ring onto the rear liner plate and install the rear liner plate onto the liner.
10. Clean the threads on the liner and liner casing cover with a degreaser or Isopropyl Alcohol. Put a small amount of thread locker (Loctite #221) on the liner casing cover and install into liner casing. Note: If you use Isopropyl Alcohol to clean the threads, it will cause the thread locker to set-up in about 10 - 15 minutes.
11. Apply the specified amount press load to the rear liner plate and tighten the liner casing setter to the proper torque. Once you are sure that the thread locker has set-up, make sure that the torque adjuster is turned all the way out anticlockwise (minimum torque position).
12. Put the pulse unit into the UOF-2 vacuum fill tank and pour the oil specified by URYU into the tank so that the oil level is at least 10mm above from the top of the liner casing (see figure 4).
13. Cycle the UOF-2 vacuum fill tank. - 5 minutes ON (as figure 5), 5 minutes OFF (as figure 6) and 5 minutes OFF (as figure 6).
14. Pull the pulse unit out of the UOF-2 vacuum fill tank making sure to leave the top of the pulse unit full of the oil specified by URYU. Wipe the outside of the pulse unit dry and clean. Clamp the hex. end of the rear liner plate in a vice with the oil fill hole higher than the rest of the pulse unit.
15. Rotate the anvil clockwise making sure to go slowly when you pass by the pressure build point in the pulse unit so that you do not pull air back into the pulse unit.
16. Once you are sure that you have all of the air purged out of the pulse unit, remove the excess oil from the top of the pulse unit so that it is level with the top of the oil fill hole. Next, following the table 3, remove the recommended amount of oil from the pulse unit and install the hexagon head bolt. Note: Make sure that you pull up lightly on the plunger of the syringe while putting the needle into the pulse unit. This will keep you from displacing the oil out of the pulse unit when you put the needle into the pulse unit.
17. Install the pulse unit into the handle, fix the anvil on a vice and agitate the pulse unit until the surface temperature of the pulse unit reaches to $55^{\circ}\text{C} \pm 5^{\circ}\text{C}$ and then, cool the pulse unit until its surface temperature falls to 25°C .
18. Wipe the pulse unit dry and clean before putting the pulse unit into the UOF-2 vacuum fill tank again. Repeat the procedures #12 -15, but the guide plate position remains at the bottom at Procedure 13 at this 2nd time (as figure 6).
19. Install the pulse unit and casing onto the handle. Note: 16Nm - 24Nm for UL30 series - UL80 series, 25Nm - 38Nm for UL90 series - UL150 series for front casing. Apply Threebond #1401 to threads on the liner casing cover.

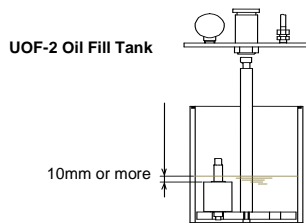


Figure 4

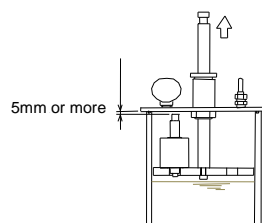


Figure 5

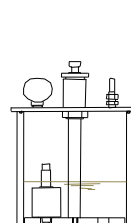


Figure 6

Air Motor

Dis-assembly:

1. Remove front casing and pulse unit.
2. Remove hammer casing connector.
3. Taking a hold of the rotor, pull the whole air motor from the handle.
4. Remove the front plate.
5. Remove the front plate bearing from the front plate.
6. Remove the cylinder.
7. Remove the blades.
8. Press rotor out of bearing away from rear plate.
9. Remove the rear plate bearing from the rear plate.

Assembly:

1. Coat one-third of the bearings with high quality grease, Multemp PS No.2 (see table 2).
2. Fit the rotor into the rear plate and press the bearing into the rear plate, except on UL100 series and UL150 series.
For UL100 series, the bearing is loctited into the rear plate with Loctite #601 and the rear plate and bearing are then pressed onto the rotor.
For UL150 series, the bearings are loctited into the rear plate and front plate with Loctite #601 and the rear plate and bearing are then pressed onto the rotor. Note: You should not be able to see any light between the rear plate and the rotor and the rotor should turn freely when you have it set right.
3. Put a light coat of air motor oil on the blades and install them in the rotor.
4. Put the cylinder down over the rotor and onto the rear plate with exhaust holes up.
5. Press the front plate bearing into the front plate and install the front plate onto the cylinder and rotor.
6. Lightly oil the O-rings and install them into the handle.
7. Line up the pin on the side of the front plate with the cut-out on the inside of the handle and install the motor unit into the handle.
8. Install the casing connector into the handle. Note: 40Nm - 50Nm for UL30 series - UL80 series, 45Nm - 55Nm for UL90 series, 55Nm - 65Nm for UL100 series - UL130 series, 60Nm - 70Nm for UL150 series. Make sure to use a good service removable thread locker (Threebond #1401) on the casing connector.
9. Install pulse unit and casing on the handle.

Test

- Check the tool speed with an accurate tachometer.
- Test the tool for torque output at maximum, minimum and middle range torque settings.
- Use a suitable URYU UDT tester.

Troubleshooting

Check the following troubleshooting guides before contacting your local URYU distributor or URYU Japan.

Symptoms	Possible Reasons	Possible Solutions
Low torque	Worn socket or bit	Replace the socket or bit with a new one.
	Air motor dry; no lubrication	Lubricate the air motor.
	Loss of power in the air motor	Overhaul the air motor.
	Low oil in the pulse unit	Refill the pulse unit
Low speed	Exhaust filter dirty	Replace the filter in the exhaust stack.
	Air motor dry; no lubrication	Lubricate the air motor.
	Loss of power in the air motor	Overhaul the air motor.

Should the above steps fail to remedy a problem with the tool, immediately stop using the tool and contact your local URYU distributor or URYU Japan. Find URYU distributor in your country at www.uryu.co.jp/english/network.html.

Models	A. Volume of Lubrication from Air Inlet per 3000 fasteners	B. Fastener Qty per 0.02mL-drop from Oil-Fog Lubricator
UL30 series - UL90 series	about 1mL - 1.2mL	about 50 - 60 fasteners
UL100 series - UL150 series	about 1.3mL - 1.5mL	about 40 - 46 fasteners

Table 1

Grease	Quantity	Part Number
Multemp PS No. 2	300g	998-712-0
	18 kg	998-711-0

Table 2

EC DECLARATION OF CONFORMITY
MACHINERY DIRECTIVE



WE, URYU SEISAKU, LTD., DECLARE UNDER OUR SOLE RESPONSIBILITY THAT UL SERIES NON SHUT-OFF IMPULSE TOOLS CONFORM WITH THE HARMONISED INTERNATIONAL STANDARD, ISO 11148-6:2012 AND THEREFORE COMPLY WITH THE ESSENTIAL REQUIREMENTS OF THE EUROPEAN PARLIAMENT AND THE COUNCIL DIRECTIVE, 2006/42/EC (17 MAY 2006) ON MACHINERY.

Kazumasa Uryu

KAZUMASA URYU
EXECUTIVE DIRECTOR
OSAKA, JAPAN
5 JANUARY 2024

Technical Specifications

Specifications are subject to change without notice.

Model	Capacity	Free Speed		Torque Range		Overall Length	Weight Less Acc.	From Center to Outside	Drive Shank Sq./Hex.	Average Air Consumption	ISO15744		ISO28927-2 *measured under load	
	(Bolt Size)	(Apporox.)		0.5MPa	0.6MPa						Sound Pressure Level (L _{PA})	Sound Power Level (L _{WA})	Vibration Total Value(A _{hd})	Vibration Uncertainty (K)
				(about)		(about)	(about)							
		mm	0.5Mpa	0.6Mpa	Nm		mm	kg	mm	mm	m³/min.	dB(A)	dB(A)	m/sec²
UL series														
UL30	5	5400	5700	5.5-10.5	6-12	133	0.70	20.5	9.5	0.20	75	-	<2.5	0.56
UL30(TM)	5	5400	5700	5.5-10.5	6-12	133	0.70	20.5	9.5	0.20	75	-	<2.5	0.56
UL30D	5	5400	5700	5.5-10.5	6-12	137	0.70	20.5	6.35	0.20	75	-	<2.5	0.57
UL30D(TM)	5	5400	5700	5.5-10.5	6-12	137	0.70	20.5	6.35	0.20	75	-	<2.5	0.57
UL40	5-6	5800	6100	11-20	13-22	133	0.70	20.5	9.5	0.20	75	-	<2.5	0.57
UL40(TM)	5-6	5800	6100	11-20	13-22	133	0.70	20.5	9.5	0.20	75	-	<2.5	0.57
UL40D	5-6	5800	6100	9-17	11-20	137	0.70	20.5	6.35	0.20	78	-	<2.5	0.58
UL40D(TM)	5-6	5800	6100	9-17	11-20	137	0.70	20.5	6.35	0.20	78	-	<2.5	0.58
UL50	6-8	6100	6400	20-32	22-35	140	0.77	22.0	9.5	0.30	78	-	<2.5	0.59
UL50(TM)	6-8	6100	6400	20-32	22-35	140	0.77	22.0	9.5	0.30	78	-	<2.5	0.59
UL50D	6-8	6100	6400	16-25	18-28	146	0.77	22.0	6.35	0.30	78	-	<2.5	0.62
UL50D(TM)	6-8	6100	6400	16-25	18-28	146	0.77	22.0	6.35	0.30	78	-	<2.5	0.62
UL60	8	6700	7000	30-45	32-50	140	0.82	22.0	9.5	0.40	80	-	<2.5	0.60
UL60(TM)	8	6700	7000	30-45	32-50	140	0.82	22.0	9.5	0.40	80	-	<2.5	0.60
UL60D	8	6700	7000	20-32	22-35	143	0.82	22.0	6.35	0.40	80	-	<2.5	0.7
UL60D(TM)	8	6700	7000	20-32	22-35	143	0.82	22.0	6.35	0.40	80	-	<2.5	0.7
UL70	8-10	5400	5700	36-60	40-65	153	0.95	23.0	9.5	0.45	80	-	<2.5	0.60
UL70(TM)	8-10	5400	5700	36-60	40-65	153	0.95	23.0	9.5	0.45	80	-	<2.5	0.60
UL80	10-12	5600	5900	40-55	45-70	162	1.15	26.0	9.5	0.48	80	-	<2.5	0.60
UL80(TM)	10-12	5600	5900	40-55	45-70	162	1.15	26.0	9.5	0.48	80	-	<2.5	0.60
UL90	10-12	5700	6000	55-90	60-100	170	1.30	27.0	12.7	0.53	82	93	<2.5	0.6
UL90(TM)	10-12	5700	6000	55-90	60-100	170	1.30	27.0	12.7	0.53	82	93	<2.5	0.6
UL100	12-14	5100	5400	70-120	80-130	177	1.66	29.5	12.7	0.58	80	-	<2.5	0.6
UL100(TM)	12-14	5100	5400	70-120	80-130	177	1.66	29.5	12.7	0.58	80	-	<2.5	0.6
UL130	14	4200	4400	90-145	100-160	197	2.30	32.0	12.7	0.65	83	94	2.7	0.7
UL130(TM)	14	4200	4400	90-145	100-160	197	2.30	32.0	12.7	0.65	83	94	2.7	0.7
UL150	16	3500	3800	135-210	150-230	213	3.00	36.0	19.0	0.70	84	95	3.0	0.7
UL150(TM)	16	3500	3800	135-210	150-230	213	3.00	36.0	19.0	0.70	84	95	3.0	0.7
UL30S	5	4700	5000	5.5-10.5	6-12	205	0.62	20.5	9.5	0.23	72	-	<2.5	0.7
UL30S(TM)	5	4700	5000	5.5-10.5	6-12	205	0.62	20.5	9.5	0.23	72	-	<2.5	0.7
UL30SD	5	4700	5000	5.5-10.5	6-12	209	0.62	20.5	6.35	0.23	75	-	2.5	0.7
UL30SD(TM)	5	4700	5000	5.5-10.5	6-12	209	0.62	20.5	6.35	0.23	75	-	2.5	0.7
UL40S	5-6	4700	5000	11-20	11-22	205	0.62	20.5	9.5	0.23	72	-	2.9	0.7
UL40S(TM)	5-6	4700	5000	11-20	11-22	205	0.62	20.5	9.5	0.23	72	-	2.9	0.7
UL40SD	5-6	4700	5000	9-17	9-20	209	0.62	20.5	6.35	0.23	75	-	3.0	0.7
UL40SD(TM)	5-6	4700	5000	9-17	9-20	209	0.62	20.5	6.35	0.23	75	-	3.0	0.7
UL50S	6-8	6100	6400	20-32	22-35	208	0.74	22.0	9.5	0.35	78	-	3.3	0.8
UL50S(TM)	6-8	6100	6400	20-32	22-35	208	0.74	22.0	9.5	0.35	78	-	3.3	0.8
UL50SD	6-8	6100	6400	16-25	18-28	214	0.74	22.0	6.35	0.35	78	-	3.2	0.7
UL50SD(TM)	6-8	6100	6400	16-25	18-28	214	0.74	22.0	6.35	0.35	78	-	3.2	0.7
UL60S	8	6400	6700	30-45	32-50	209	0.77	22.0	9.5	0.45	80	-	3.5	0.8
UL60S(TM)	8	6400	6700	30-45	32-50	209	0.77	22.0	9.5	0.45	80	-	3.5	0.8
UL60SD	8	6400	6700	20-32	22-35	212	0.77	22.0	6.35	0.45	80	-	3.7	0.8
UL60SD(TM)	8	6400	6700	20-32	22-35	212	0.77	22.0	6.35	0.45	80	-	3.7	0.8
UL70S	8-10	5100	5400	36-60	36-60	223	0.87	23.5	9.5	0.45	84	95	3.7	0.8
UL70S(TM)	8-10	5100	5400	36-60	36-60	223	0.87	23.5	9.5	0.45	84	95	3.7	0.8

* The uncertainty in the sound levels is 3dB(A).


These declared values given in the table were obtained by laboratory type testing in accordance with **ISO 15744 for sound levels** and **ISO 28927-2 for vibration values** and are not adequate for use in risk assessments. Values measured in individual work places may be higher than the declared values. The actual exposure values and risk of harm experienced by an individual user are unique and depend upon the way the user works, the workpiece and the workstation design, as well as upon the exposure time and the physical condition of the user.


We, URYU SEISAKU, LTD., cannot be held liable for the consequences of using the declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation over which we have no control.

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 **URYU SEISAKU, LTD.**
International Dept.

 +81 6 6973 9415

 +81 6 6972 0346

 uryuair@uryu.co.jp