

Hydraulic Tester for UW Impact Wrenches

**UHT-12, -16, -25, -35, -50**

**Manual Version 1.0**



**URYU SEISAKU, LTD.**

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## **1. Precautions for Correct Usage**

Read through this instruction handbook and familiarise yourself with the system before installation, operation, maintenance, and inspection.

1. Fix the UHT tester to the plate by mounting the Fixing Stand to the table / floor.
2. Never apply to the UHT tester more torque than specified values.
3. Make sure to loosen the Spindle after usage.
4. It is recommended that you prepare the FRL to evaluate the tool performance correctly.
5. Use the Uryu genuine Test Socket to operate your tools.

## **2. Standard Accessories**

Model	Part Number	Description	Qty	Remarks
UHT-12	839-520-1	Test Socket (10H)	1	Please use the 10mm Hex and 100mm long bit socket.
UHT-16	838-520-1	Test Socket (5H)	1	
	838-520-2	Test Socket (6.35H)	1	
UHT-25	841-520-1	Test Socket (3/8" SQ)	1	
UHT-35	841-520-2	Test Socket (1/2" SQ)	1	
UHT-50	842-520-1	Test Socket (5/8" SQ)	1	
	842-520-2	Test Socket (3/4" SQ)	1	
	842-520-3	Test Socket (1" SQ)	1	
	842-520-4	Test Socket (1-1/4" SQ)	1	

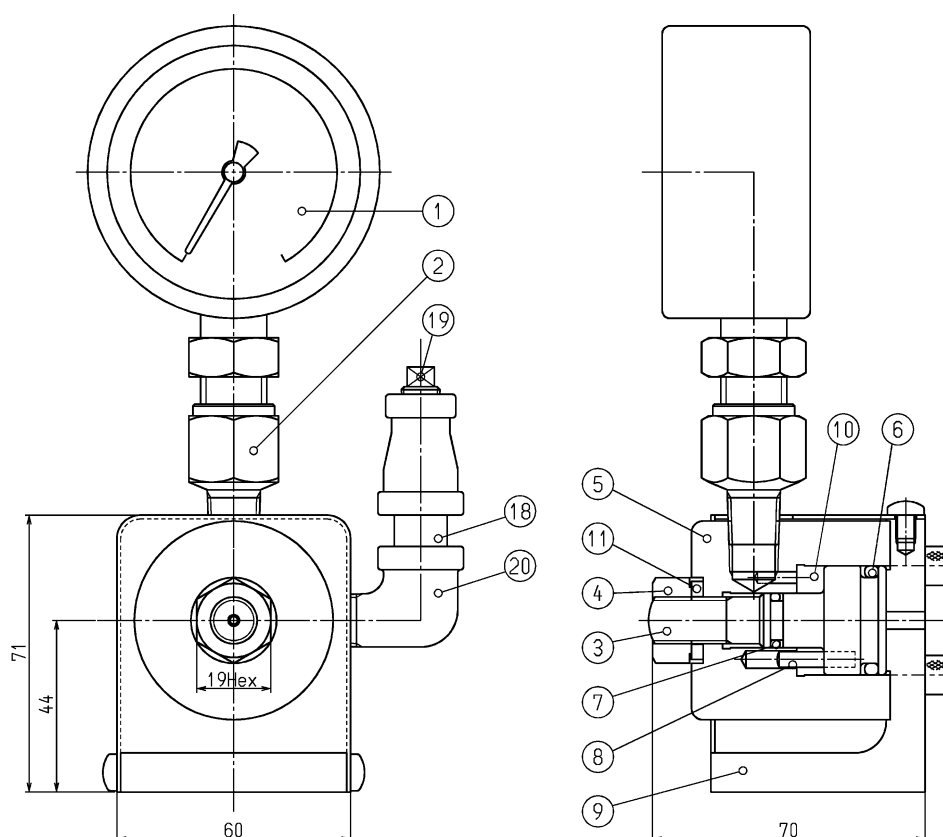
### 3.Tools Used for UHT Testers

UHT Tester		Tools used	
Model	Code Number	Key Model Numbers	Sq. Anvil Size
UHT-12	83912	US-3.5A ~ 5 (Cushion Clutch Type Screwdriver)	Hex.5, Hex.6.35
UHT-16	83812	US-450WB ~ 6W (Impact Screwdriver) UW-6SLDK ~ 6SDK	Hex.5, Hex.6.35
UHT-25	84012	UW-6SLK ~ 6SHK, 61EK, UW-6CSLK	SQ.3/8"
UHT-35	84112	UW-8SHK ~ 13SK, 101EK ~ 131EK, UW-140P UW-8CSHK ~ 13CSK	SQ.1/2"
UHT-50	84212	UW-22S ~ 401, UW-161E, UW-220P ~ 381P	SQ.5/8", SQ.3/4" SQ.1", SQ.1 1/4"

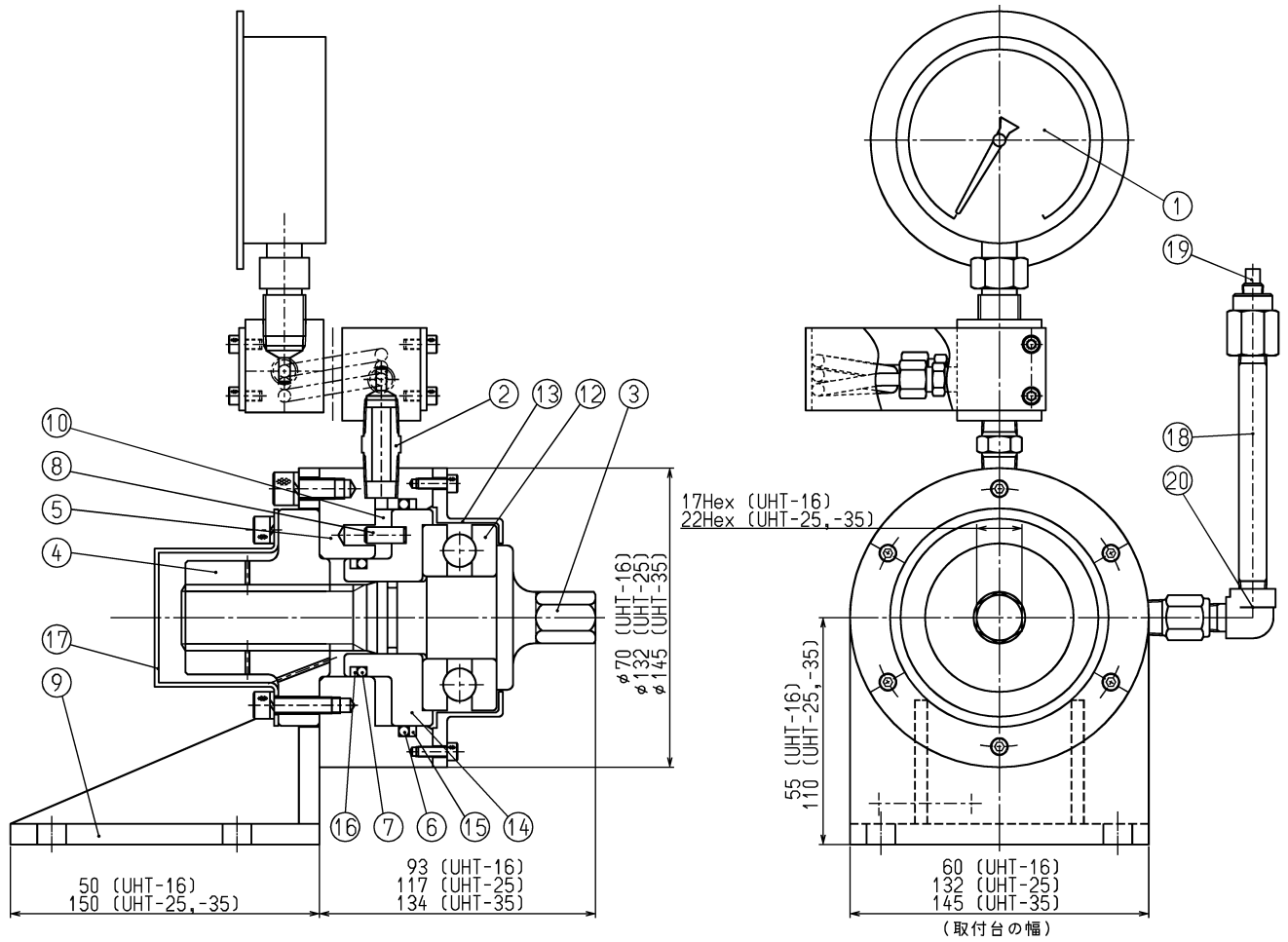
### 4. Parts Descriptions and Dimensions

Item	Description	Item	Description	Item	Description
1	Pressure Regulator	8	Locking Pin	15	Back-up Ring (Large)
2	Pipe	9	Fixing Stand	16	Back-up Ring (Small)
3	Spindle	10	Oil	17	Oil Cover
4	Nut	11	Spindle Washer	18	Oil Supply Pipe
5	Cylinder	12	Thrust Ball Bearing	19	Oil Inlet Cap (Plug & Locking Nut)
6	O-Ring (Large)	13	Bearing Cover		
7	O-Ring (Small)	14	Plunger	20	L-Connector

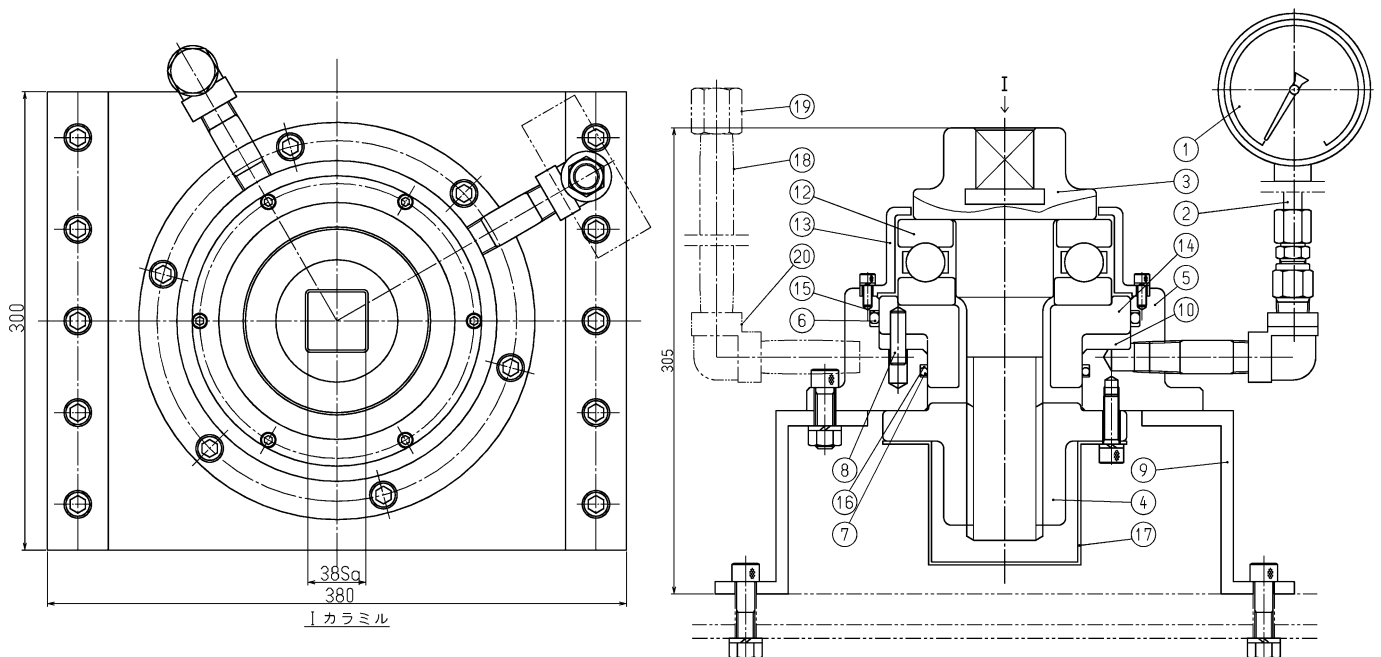
#### UHT-12



## UHT-16,-25,-35



## UHT-50



## 5. Specifications

	Nominal Thread	Operating Oil Surface	Oil Vol.	Oil Used	Weight
	of Spindle	(about) cm <sup>2</sup>	ml		Kg
UHT-12	M12	4.62	10	DHPHNE TURBINE OIL 46 Shell Tellus Oil C46	1.8
UHT-16	TW16 - 8 (29°)	12.6	20		2.8
UHT-25	TW24 - 5 (9°)	38.3	100		13.0
UHT-35	TW32 - 4 (29°)	61.0	300		17.5
UHT-50	TW50 - 2.5 (29°)	133.0	1500		154.0

## 6. How to operate

1. Refer to the below inspection standard for testing conditions and test values.
2. Seat the Spindle to apply pressure for start-up and continue to tighten.
3. Confirm that tools work OK/NOK by checking the pressure value on the Pressure Regulator after tightening.
4. Make sure to loosen the Spindle after tightening.

Inspection Standard (Note that the below pressure values are measured with the 5-meter long air hose with the specified ID in the catalogues.)

Model	Pressure MPa or more	Time (sec)	Tester	Model	Pressure MPa or more	Time (sec)	Tester
			Air Pressure				Air Pressure
US-3.5A	10	2	UHT-12 0.4MPa	UW-8SHK	11	2	UHT-35 0.6MPa
US-4	12			UW-9SK	12		
US-5	13			UW-10SHK	14		
US-4CA	12			UW-13SK	18		
US-5CA	13			UW-8CSHK	9		
US-450WB	13	2	UHT-16 0.4MPa	UW-9CSK	11	2	UHT-50 0.6MPa
US-5W	18			UW-13CSK	15		
US-6W	19			UW-101EK	13		
US-450PW	14			UW-131EK	17		
US-5PW	18			UW-140P	15		
US-6PW	19	1	UHT-16 0.4MPa	UW-22S	9	2	UHT-50 0.6MPa
UW-6SLDK	12			UW-32SLA	15.5		
UW-6SDK	14			UW-401	21		
UW-6SHDK	18	2	UHT-25 0.6MPa	UW-401L	19		
UW-6SLK	9			UW-22CS	8		
UW-6SK	11			UW-32CSL	12		
UW-6SHK	16			UW-161E	5.5		
UW-6CSLK	8			UW-220P	8		
UW-6CSK	9			UW-251P	15		
UW-6CSHK	14			UW-381	20		
UW-61EK	16			UW-381P	20		

## **7. Daily Inspection**

Inspect the UHT testers every day with torque wrench.

Apply the torque to the Spindle of UHT tester. When the pressure value of Pressure Regulator reaches the one in the left Daily Inspection table, make sure that the value of torque wrench is within the one in the left Daily Inspection table. If the pressure will not increase, refer to the clause 8 "Troubleshooting".

Daily Inspection Table

Model Number	Pressure (MPa)	Torque (N·m)
UHT-12	15	20±3.0
UHT-16	15	30±4.5
UHT-25	15	150±22.5
UHT-35	15	300±45
UHT-50	7	560±84

## **8. Troubleshooting**

Check the below items when you find that pressure will not increase.

Damaged Part	Probable Cause	Countermeasure
Spindle Nut	Worn out / Cracked Spindle	Replace Spindle and Nut. Make sure to replace Spindle and Nut as a set.
	Worn out Threads	
	Broken the hex part of Spindle	
	Dirty Threads	Clean the threads.
Thrust Ball Bearing	Broken Cage	Replace Thrust Ball Bearing.
	Broken / Worn out Balls	
	Broken / Worn out Inner / Outer Ring	
O-Ring Back-up Ring	Worn out	Replace O-Ring / Back-up Ring.
Volume of Oil	Insufficient Oil Filling / Oil Leakage	Refill the UHT with Oil.
Pressure Regulator	Broken or Malfunction	Replace Pressure Regulator.
Oil Supply Pipe	Broken / Oil Leakage from connector	Replace Oil Supply Pipe and / or refill the UHT with oil.

## **9. Maintenance**

### **9.1 Disassembly**

#### **·UHT-12**

1. Remove the Nut ④ and Spindle Washer ⑪.
2. Remove 4 pieces of Allen Head Bolt from Fixing Stand ⑨ and take Cylinder ⑤ away.
3. Remove Spindle ③ from Cylinder and take O-Rings ⑥ & ⑦ away.

#### •UHT-16,-25,-35, & -50

1. Remove either 4 or 6 pieces of Allen Head Bolt from Bearing Cover ⑬. Then, continue to remove Bearing Cover, Spindle ③, and Thrust Ball Bearing ⑫ respectively.
2. Remove the Oil Inlet Cap ⑲. To avoid any possible risk, attach Spindle to Nut ④ and tighten it until it is seated.
3. Connect the air hose to the oil inlet and pump the air gradually. Loosen the Spindle slowly and remove Plunger ⑭.
4. Remove 4 pieces of Allen Head Bolt from Oil Cover ⑰. Continue to remove Oil Cover and Nut.
5. Remove Cylinder ⑤ and O-Rings ⑥ & ⑦ and Back-up Rings ⑮ & ⑯ of Plunger

#### **9.2 Re-assembly**

##### •UHT-12

1. Attach O-Rings ⑥ & ⑦ to Spindle ③. Continue to attach to Cylinder ⑤. Make sure to align the Locking Pin ⑧ to the pin hole.
2. Attach Cylinder to Fixing Stand ⑨ with Allen Head Bolt.
3. Attach Spindle Washer ⑪ to Spindle. Continue to attach Nut
4. Make sure to confirm that Spindle moves properly.

##### •UHT-16,-25,-35, & -50

1. Attach O-Rings ⑥ & ⑦ and Back-up Rings ⑮ & ⑯ to Cylinder ⑤ and Plunger ⑭.
2. Attach Nut ④ to Oil Cover ⑰ with Allen Head Bolt.
3. Attach Cylinder to Plunger. Make sure to align the Locking Pin ⑧ to the pin hole.
4. Attach Thrust Ball Bearing ⑫ to Spindle ③ and press-fit to Nut.
5. Put Bearing Cover ⑬ and attach with Allen Head Bolt.
6. Make sure to confirm that Spindle moves properly.

#### **9.3 How to change oil & to refill UHT with oil**

1. Loosen Spindle ③ (Nut for UHT-12).
2. Remove Oil Inlet Cap ⑲ and connect the air hose to the oil inlet. Pump the air gradually to push Plunger ⑭ (Spindle ③ for UHT-12) out. Stop supplying the air and disconnect air hose when Plunger stops moving (Spindle moves to the end for UHT-12).
3. Pump the oil from oil inlet and make sure to leave it until the air bubble disappears completely. Never leave air bubble inside.
4. Pump oil in the Pipe between Pressure Regulator ① and Cylinder and attach Pressure Regulator.
5. Tighten Spindle gradually. When you find oil coming out of oil inlet, attach Oil Inlet Cap.
6. Conduct the tightening test and make sure that you acknowledge no oil leakage from connectors.