

# THE-200

액체정량토출시스템 Since1994

## PRECISION LIQUID DISPENSING TECHNOLOGY



User manual

 **TAEHA** Corporation

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## 1 General information

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### 1.1 General information

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This user manual provides the user and the equipment maintenance specialist with essential information for operating the equipment. Therefore, it is strongly recommended that you should thoroughly understand this user manual.

In order to have easy access to this user manual, it must be placed where it can be easily seen, near the equipment.

### 1.2 Warranty

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Except for a separate agreement and the following cases, the warranty period will be one year in the event of defects.

- Following -

1. In case you modify the equipment without permission by Taeha Corp.
2. If someone other than the technical support personnel of Taeha Corp. modifies the equipment or repairs the equipment without using the designated parts.
3. If any spare parts other than those specified by Taeha Corp. have been used for the product.
4. In case of intentional damage or damage due to consumer's fault
5. In case of natural disasters or fire.

### 1.3 Technical support

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If necessary, Taeha Corp. will provide technical support service for the customer. Please contact us by phone or fax.

Head Office

Phone : +82(0)31 552 5300

Fax : +82(0)31 552 5400

## 2 Features

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### 2.1 Introduction

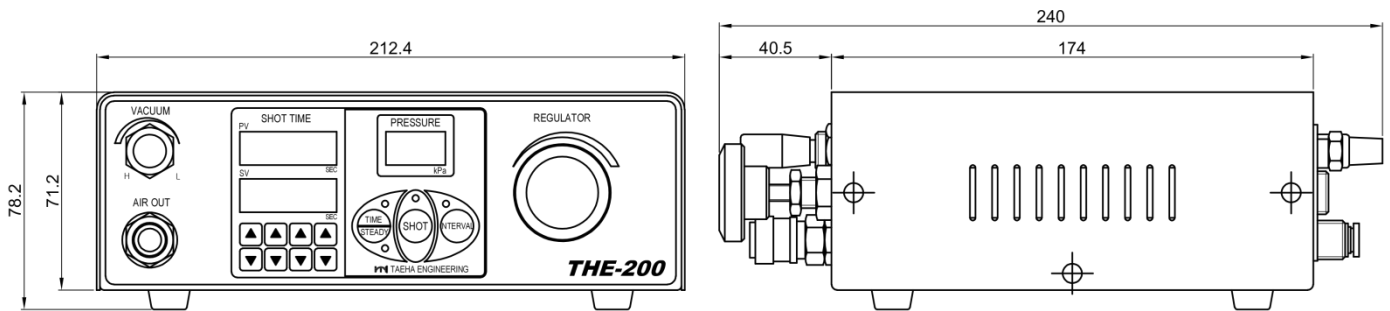
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- Faster and more stable dispensing volume by applying a precision regulator
- Precise and stable pressure setting possible by installing a pressure sensor
- Adjust the time and pressure with the digital display
- Superior reliability and durability with only a few minor failures

Please read this manual carefully and proceed with the work that you want to maximize the performance of the product.

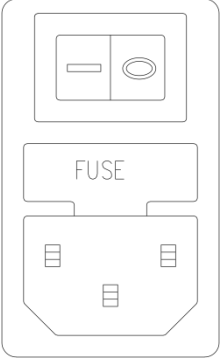
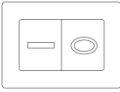


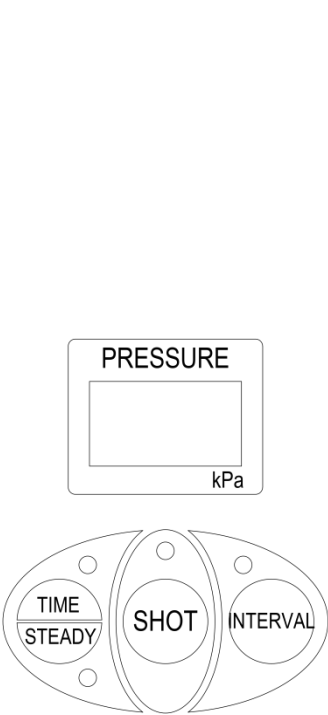

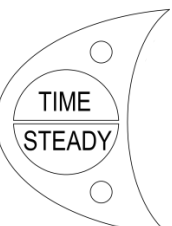



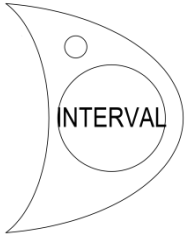
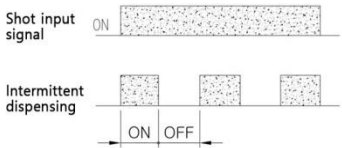
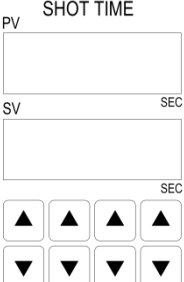
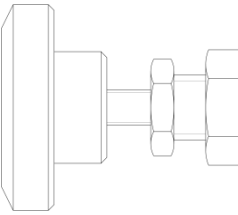
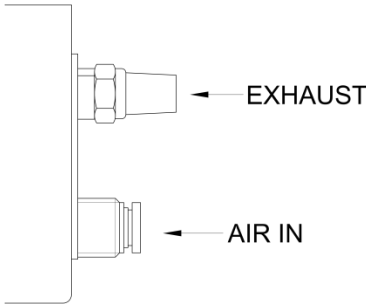
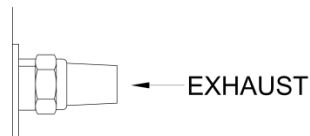
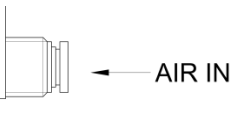
## 2.2 Specification



Item	Specification
Model	THE-200
Power	AC 220V $\pm$ 10%, 50/60Hz
Power consumption	10 W(Max)
Operating air	Max. 990kPa, Oil-free dry air
Air pressure range	15 ~ 700 kPa
Shot time range	0.001 ~ 9.999 sec
Operating mode	Timer : fixed quantity dispensing Steady : continuous dispensing Interval : intermittent dispensing(Interval time 0.05 ~ 9.999 sec)
Input signal	Non-voltage N.O contact(keep input signal. More than 0.005sec) Shot start signal
Output signal	Relay N.O (DC 24V, Max.1A) Shot end signal
Vacuum	0
Operating humidity	Relative humidity 25 ~ 82% RH(No condensation)
Operating temperature	5 ~ 40°C
Weight	3.6Kg
Standard component	Foot Switch(2m) / Power Cord(1m) / Barrel Stand



### 3 Names of each part

Image	Names and displays	Function
	 : ER Switch	I : Power on O : Power off
	 : Holder	Small 0.5 +A Fuse(include spare 1 EA)
	 : Acceptable	Power cord inlet. (Be sure to process earth)
	 : Display	The pressure can be adjusted with a precision regulator and the adjusted pressure will be displayed in the window on the display. The unit is kPa.
	 : Time/steady mode	You can switch between time mod and steady mode by pressing the time/steady button. The led will light up so you can see the mode. The top led indicates time mode and the bottom led indicates steady mode.. - Time mode : Dispense during the time set by the user. - Steady mode : It dispenses based on the signal input from the foot switch or the host controller. The shot time is displayed in the PV window of the time display window..
	 : Shot button	Press the shot button to dispense. - Time mode : Press the button once to dispense during the time set by the user. - Steady mode : Dispense continuously while the button is pressed.

	 <p>: Interval mode</p>  <p>&lt;Interval mode timing chart&gt;</p>	<p>Select the interval mode.</p> <ul style="list-style-type: none"> <li>- When you press the button, an INTL message will be displayed in the PV window, and you can press the increase / decrease button to set the off time.</li> <li>- If the time is set, the led will be lit on Interval mode, and if the time is set to 0, the led will be off and the interval mode will be canceled.</li> <li>- Interval mode operates only in time mode, and if you hold down the shot button, it will repeat on / off according to the set time.</li> </ul>
	<p>It is an operation unit that can display and set the shot time, and the unit is sec. The PV at the top displays the shot time (red). The lower SV displays the shot time (green) that operates in time mode. The time displayed on the SV can be adjusted for each digit using the direction button, and when pressed for 2 seconds or longer, it rises / falls rapidly.</p>	
	<p>A pressure regulator equipped with a precision regulator. The shot pressure can be set using the pressure adjustment regulator. The set pressure is displayed in the input display window. Turn clockwise (CW) to increase pressure and counterclockwise (CCW) to decrease pressure.</p>	
	 <p>: Exhaust</p>	<p>Pressure release in Barrel and Vacuum generator outlet. Keep it clean so that there are no foreign objects. After the dispensing is completed, it may cause poor decompression and drop in pressure .</p>
 <p>: Air in port</p>	<p>Provides air pressure to the THE-200 controller. Please use dry air. Supply air with a maximum of 0.9MPa to the outer diameter Ø6tube.</p>	

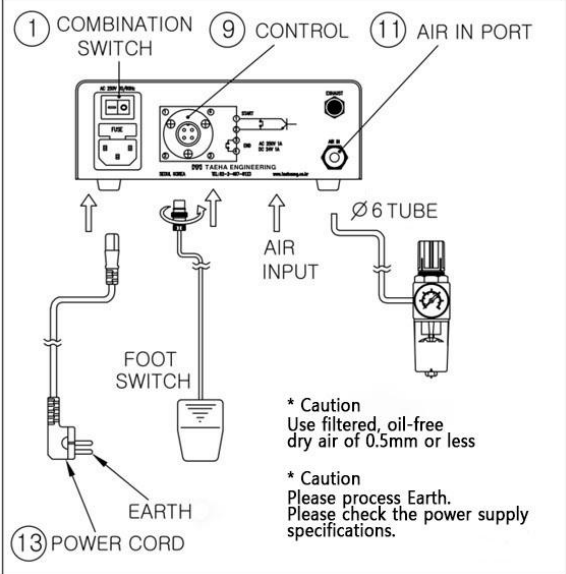
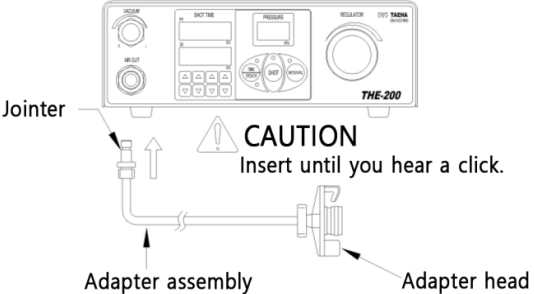
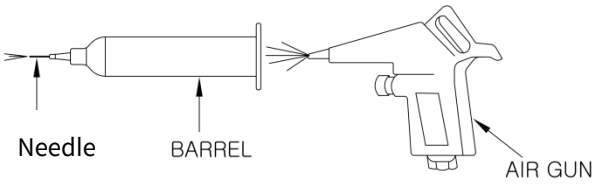
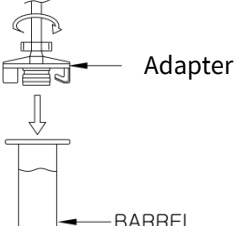
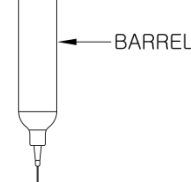
		<p>Set the negative pressure in the barrel.</p> <ul style="list-style-type: none"> <li>- CW : Decrease negative pressure</li> <li>CCW : Increase negative pressure</li> </ul> <p>If the dispensed material has a low viscosity, the material will fall naturally, so set a negative pressure to prevent it.</p>
	<p>This is a connector for the shot start input signal and shot end output signal. It is used by connecting to a foot switch or an external device.</p> <p>Terminal number 1, 2 : Shot input signal</p> <p>Terminal number 3, 4 : Shot end signal(Relay contact. AC220V 1A, DC24V 3A)</p> <div data-bbox="507 1064 1500 1355"> <p>Dispense Input Signal</p> <p>SHOT TIME (Inout Signal &gt; Shot Time)</p> <p>Dispense End Signal</p> </div> <div data-bbox="507 1377 1500 1758"> <p>Dispense Input Signal</p> <p>SHOT TIME (Inout Signal &lt; Shot Time)</p> <p>Dispense End Signal</p> <p>MIN 20msec</p> <p>MIN 30msec</p> </div> <p style="text-align: center;">&lt;l/O timing chart&gt;</p> <p>⚠ Caution</p> <p>Do not connect power to the connector. A failure will occur.</p> <p>The shot end output signal is generated only in Time mode. It is not output in Steady mode</p>	



 A line drawing of a foot switch. It consists of a rectangular base with a foot pedal on the right side, connected to a long, thin cable that ends in a small cylindrical connector on the left.	<b>Foot Switch</b>	<p>Press the Foot switch to input the shot signal.</p> <p>Foot switch Used by connecting to the input / output connector.</p>
 A line drawing of a power cord. It features a standard three-prong AC power plug on the right end, connected to a long, thin cable that ends in a cylindrical connector on the left.	<b>Power cord</b>	<p>Be sure to perform grounding on the power connection line.</p> <p>It is used by connecting to a grounded single-phase AC 220V outlet.</p>

## 4 Set-up

### 4.1 Ready

No.	Image	Description
1	 <p>1 COMBINATION SWITCH    9 CONTROL    11 AIR IN PORT</p> <p>13 POWER CORD</p> <p>FOOT SWITCH</p> <p>AIR INPUT</p> <p>Ø6 TUBE</p> <p>EARTH</p> <p>* Caution Use filtered, oil-free dry air of 0.5mm or less</p> <p>* Caution Please process Earth. Please check the power supply specifications.</p>	<p>1-1) Supply air with a maximum of 0.9MPa to the outer diameter Ø6tube.</p> <p>1-2) Insert the Power cord.</p> <p>1-3) After inserting the Foot switch into the control terminal, turn the screw to firmly attach it.</p> <p>1-4) Turn on the Combination switch.</p> <p>When turned on, the lamp lights up.</p>
2	 <p>Jointer</p> <p>CAUTION Insert until you hear a click.</p> <p>Adapter assembly</p> <p>Adapter head</p>	<p>Insert the joint of the adapter assembly into the Air out port on the front of the controller.</p>
3	 <p>Needle</p> <p>BARREL</p> <p>AIR GUN</p>	<p>Before adding material, clean the barrel and needle with dry air to prevent foreign matter.</p>
4	 <p>Adapter</p>	<p>Put the material so that it does not contain air bubbles. Fill up to 70-80% of the barrel capacity, and wipe off any liquid on the top 1-2 cm.</p>
5	 <p>BARREL</p>	<p>Insert the adapter assembly head into the barrel head and rotate it 90 ° afterwards to prevent it from coming off.</p>

### 4.2 Negative pressure adjustment

No.	Image	Description
1		<p>If the material falls naturally on the tip of the needle, we are adjusting the vacuum.</p> <p>Turning the handle on the front of the controller counterclockwise creates negative pressure to prevent free fall .</p> <p>⚠ Caution</p> <ul style="list-style-type: none"> <li>- If the negative pressure is too large, air bubbles will be generated inside the barrel and the material after dispensing can be inhaled, so set the negative pressure appropriately .</li> <li>- Please note that when negative pressure is generated, the material in the controller may be sucked by tilting the barrel severely, which may cause a malfunction.</li> </ul>

### 4.3 Air bubble removal

No.	Image	Description
1		<ul style="list-style-type: none"> <li>- If there are air bubbles in the needle or barrel, set it to low pressure and then operate slowly in steady mode until the air comes off.</li> <li>- Replace needle.</li> </ul>

### 4.4 Shot amount adjustment

No,	Description													
1	<table border="1" data-bbox="217 524 810 734"> <thead> <tr> <th>Adjustment</th> <th>Decrease</th> <th>Increase</th> </tr> </thead> <tbody> <tr> <td>Needle</td> <td>thickness ↓</td> <td>thickness ↑</td> </tr> <tr> <td>Pressure</td> <td>Low</td> <td>high</td> </tr> <tr> <td>Shot time</td> <td>time ↓</td> <td>time ↑</td> </tr> </tbody> </table>	Adjustment	Decrease	Increase	Needle	thickness ↓	thickness ↑	Pressure	Low	high	Shot time	time ↓	time ↑	<p>1) Set to steady mode(continuous dispensing).                      2) Gradually increase to the desired shot amount at the appropriate(desired) flow rate.                      3) You can also adjust the dispensing pressure to set the desired flow rate and shot amount.</p> <p>⚠ Caution</p> <ul style="list-style-type: none"> <li>- At first, adjust the shot amount to a needle of appropriate thickness by gradually boosting the pressure from low pressure.</li> <li>-Please note that there is a risk of material scattering if the needle is thick and high pressure.</li> </ul>
Adjustment	Decrease	Increase												
Needle	thickness ↓	thickness ↑												
Pressure	Low	high												
Shot time	time ↓	time ↑												
2	<p>Factors that can change the shot amount</p> <table border="1" data-bbox="193 1077 810 1234"> <tbody> <tr> <td>Shot time</td> <td>Small amount</td> </tr> <tr> <td>Needle change</td> <td>Middle amount</td> </tr> <tr> <td>Pressure</td> <td>Large amount</td> </tr> </tbody> </table>	Shot time	Small amount	Needle change	Middle amount	Pressure	Large amount	<p>1) Operate in steady mode until the desired shot amount is shot s/w or foot s/w.                      2) At this time, after memorizing the number in shot time, select time mode and set the time with the up/down key.                      3) With the time mode selected, proceed with the dispensing test and check if the shot amount is the one you want.</p>						
Shot time	Small amount													
Needle change	Middle amount													
Pressure	Large amount													

## 5 Maintenance consumables

- 1) If the o-ring of the adapter assembly is solidified with solvent and damaged material, replace it with a new product.
- 2) Do not use the product if the barrel is scratched or damaged.  
(Barrel is disposable. Replace it after it has been used for metered dispensing.)
- 3) Adapter assembly, barrel, needle, o-ring, etc. are consumables. Please specify the size and part number when ordering.
- 4) If any trouble occurs or repair is required, please contact us if you have any concerns.

Inspection	Cycle	What to check and what to do	Remarks
<b>Ambient Environment</b>	Occasionally	Confirm that it meets the usage standards of the equipment.	
<b>Power Supply Voltage</b>	Occasionally	Check if the power is AC220V and 50/60Hz.	
<b>Appearance of Equipment</b>	Periodically	Check if the connection parts(connector, terminal block, etc.) are loose and tightly fasten the loose parts.	
<b>Cables</b>	Periodically	Check if the cover is peeled or there is severe bending.	
<b>Internal State of Equipment</b>	Periodically	Keep it clean to prevent so that the contamination by dust or solution does not interfere with the operation of the equipment.	
<b>Supplied Air</b>	Occasionally	Check the piping connection, joint, or if there is no leakage so that the supplied air maintains normal pressure.	
<b>Other Checks</b>	Periodically	- Fastening condition of the fixed parts and joints in the equipment - Joined and tightened condition of wiring - Arrangement condition around the equipment.	

### **Danger**

Be sure to take necessary measures such as manual mode of the equipment, emergency stop, power off, etc. before performing maintenance and inspection. If the power is not turned off, any material inside the equipment or the inspector may be detected by the sensor, which may occur movement of the equipment. It may also cause electric shock.