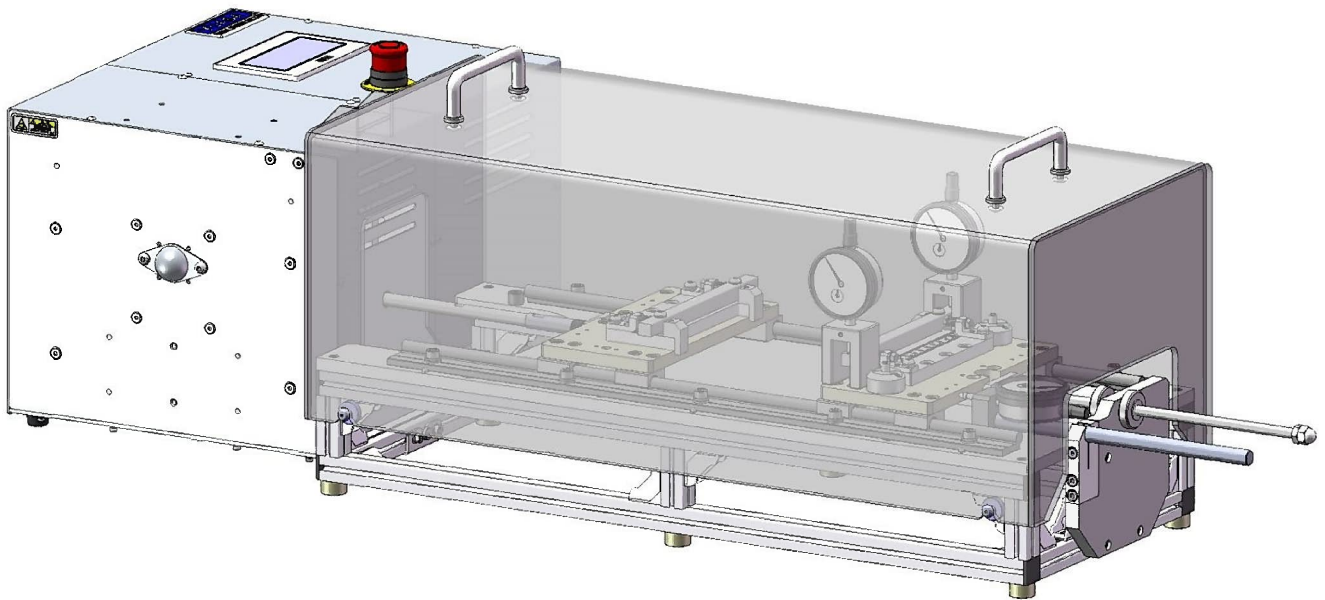


INSTRUCTION MANUAL STRETCHING

ET254005M0001-B



Safety precaution are classified into five categories

- WARNING** : Death or serious injury may result from not following product installation instruction.
- CAUTION** : Minor injury, as well as damage to the product may result from not following product instruction.
- NOTICE** : Inaccurate data may result from not following the test instructions.
- NOTE** : General knowledge.
- INTERLOCK** : Effect of the interlock system for safety.

- INTERLOCK** : Install the safety cover and prevent access to any moving parts.
- WARNING** : Installing, operating, maintaining or inspecting must be carried out by skilled and professional engineers.
- WARNING** : Make sure to tighten each screws as described in this manual.
- WARNING** : Make sure the Emergency Stop Button is maked work, and the machine is completely stopped before adjust the testing condition and change the part.
- WARNING** : Make sure the power is switched off, and the machine is completely stopped before carrying out maintenance and inspection.
- WARNING** : Do not use products beyond its capacity as specified in the specification.
- WARNING** : Do not remodel.
- CAUTION** : Do not change installation environment (temperature and humidity) rapidly.
- CAUTION** : Isolate the machine from sunlight.
- CAUTION** : Isolate the machine from any noise.
- CAUTION** : Isolate the machine from any dust.
- CAUTION** : Isolate the machine from large vibration.
- CAUTION** : Immediately stop the machine upon any sign of abnormal operation.
- NOTICE** : Make sure to tighten the screws as described in the manual.
- NOTE** : In some cases, illustrations with different shapes may be included.
- NOTE** : In some cases, a description different from your equipment may be included.
- NOTE** : The scraps should be disposed as general waste by skilled professionals.

- CONTENTS -

1. INTRODUCTION	
1.1 OVERVIEW	1-1
1.2 STRUCTURE and COMPONENTS	1-1
1.3 INSTALLATION	1-2
2. OPERATION (DMLHP)	
2.1 COORDINATE	2-1
3. SETTING of TESTING CONDITON	
3.1 CLAMPER BASES	3-1
3.2 INITIAL LENGTH	3-1
3.3 HOLDING SAMPLE	3-1
3.4 SQUASHING GAUGES	3-2
3.5 MINUTE ADJUSTER	3-3
3.6 SAFETY COVER	3-4
3.6.1 MOUNTING	3-4
4. MAINTENANCE and INSPECTION	
4.1 INSPECTION	4-1
4.1.1 PARTS LIST	4-1

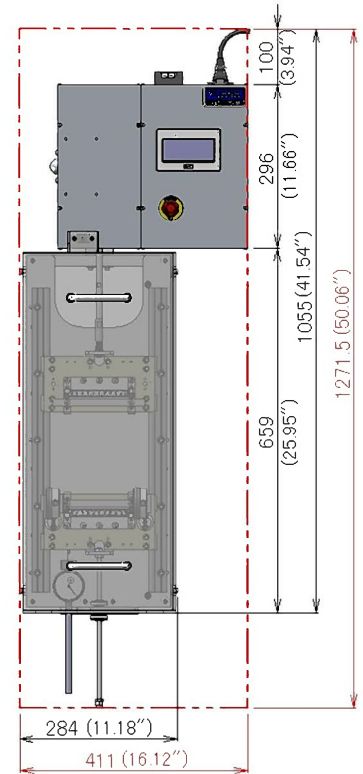
[- NOTICE -]

We make absolutely sure about the contents of this user manual.
However, if you have some questions or find some incorrect, please contact us.

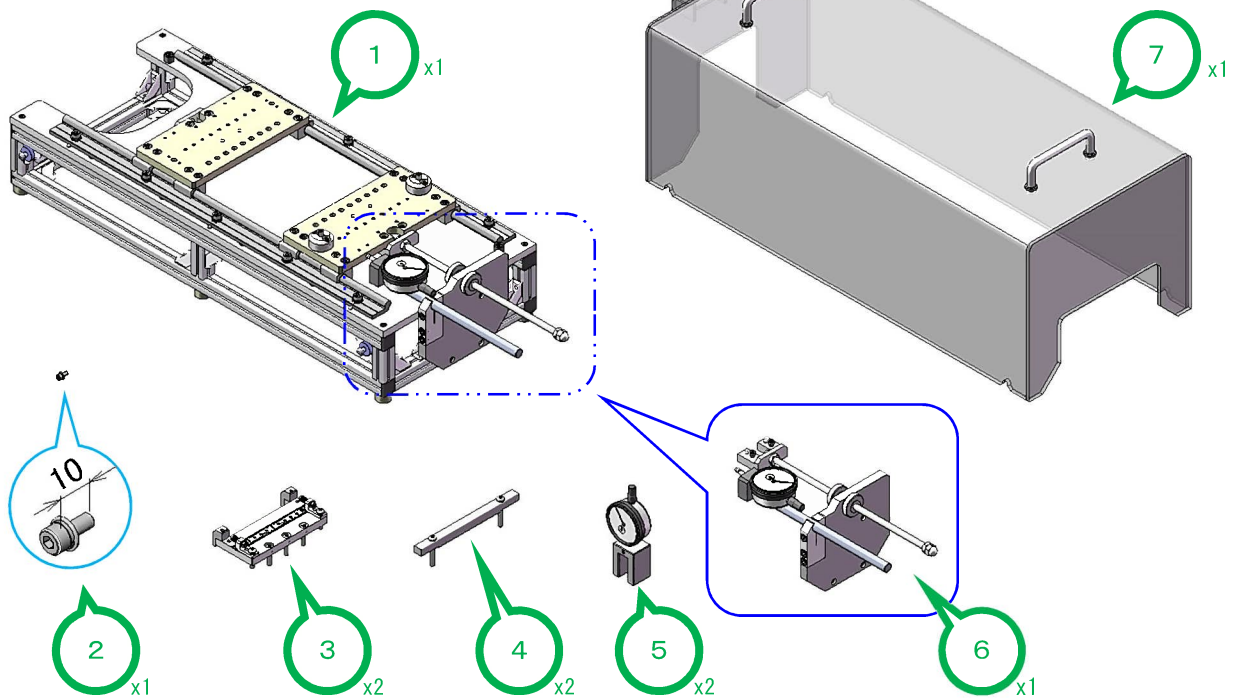
1. INTRODUCTION

1.1 OVERVIEW

Sample's size	Thickness : Max. 3 mm
	Width : Max. 100 mm
	Length : Min. 30 mm +Clamping spaces
Stretching amount	Max. 120 mm
	Ex. From 30 mm to 150 mm (strain 500 %) Ex. From 240 mm to 360 mm (strain 50 %)
Rec. Speed	Max. 90 rec/min
Driving Unit	DMLHP only
Mass	Driving unit : About 15 kg (33.5 lb)
	Testing jig : About 11 kg (23.9 lb)
	Safety cover : About 4 kg (8.2 lb)
Installation Environment	Temp. : +5~+40 ° C (41~104 ° F)
	Humi. : 15~85%RH (No Condensation)



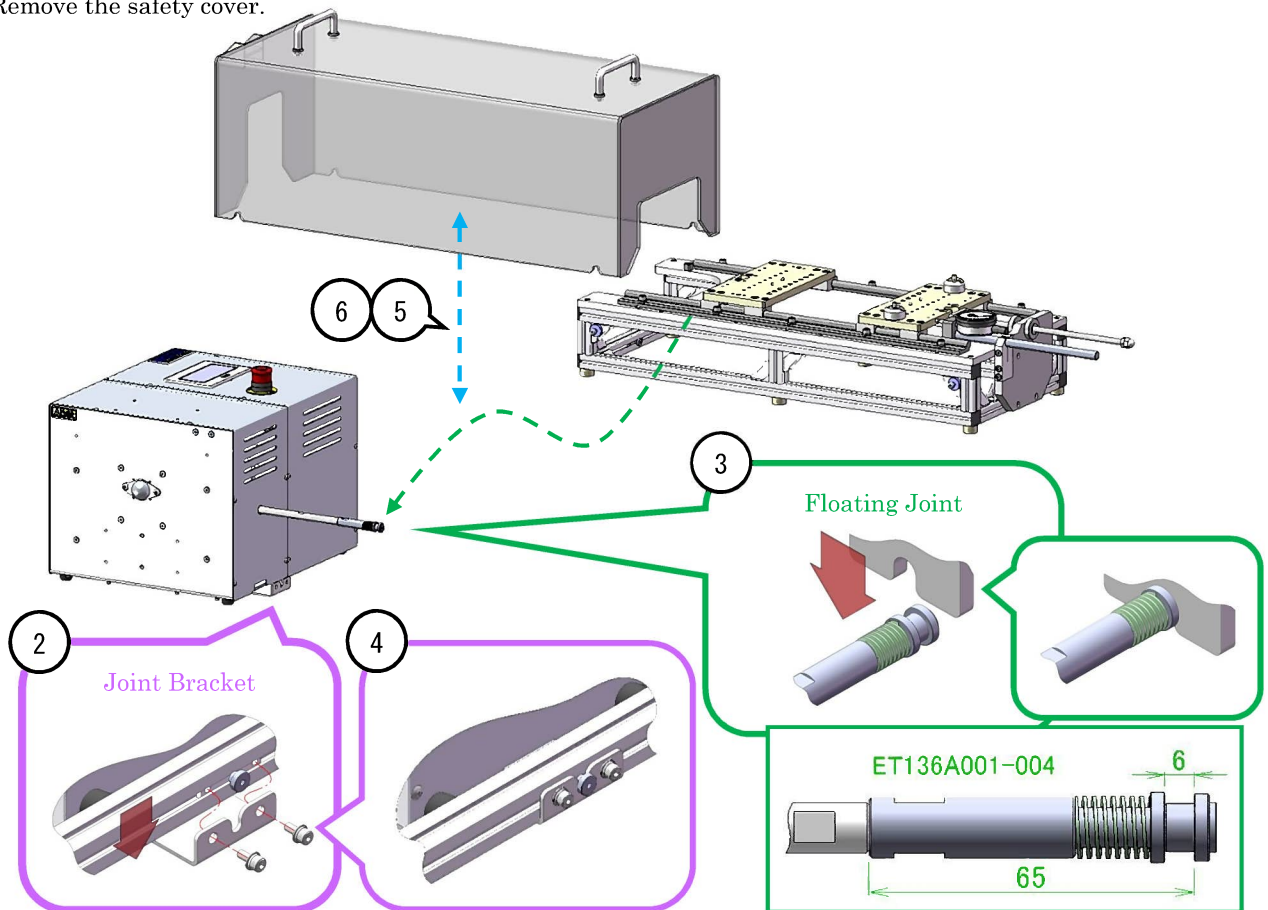
1.2 STRUCTURE and COMPONENTS



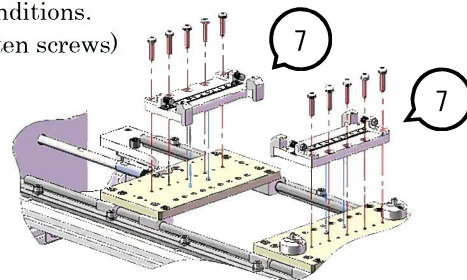
No	NAME	MANUFACTURE (MATERIAL)	NOTE
1	Basic unit	YUASA SYSTEM	
2	Washer assembled cap screw	(Stainless steel)	M4x10 (I=3)
3	Clamber base	YUASA SYSTEM	
4	Clamping bar	YUASA SYSTEM	
5	Squashing gauge	YUASA SYSTEM	
6	Minute adjuster	YUASA SYSTEM	
7	Safety cover	YUASA SYSTEM	

1.3 INSTALLATION [Tool: 3 mm Allen wrench]

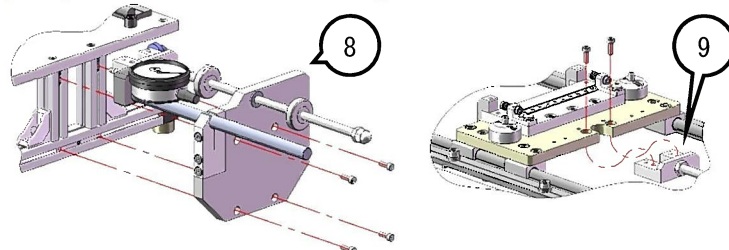
- 1) Confirm that the driving unit “DMLHP” modified to the linear rec. mode, and the joint bracket (ET209A008-001) and the floating joint (ET136A001-004) has been attached to DMLHP.
- 2) Hold the testing jig to DMLHP and put down slowly.
- 3) Insert the floating joint to the slider (the testing jig).
- 4) Fix the test jig to the joint bracket with screws. [Tool: 3 mm Allen Wrench]
 - NOTE** Washer assembled cap screw: M4x10, 2 sets
 - CAUTION** Tightening torque: 3.0 N·m (do not over tighten screws)
- 5) Attach the safety cover to the testing jig, then check DMLHP and the testing jig moving smoothly. (Refer to “3.3 SAFETY COVER” for detail).
- INTERLOCK** Cannot operate DMLHP when the safety cover is open.
- 6) Remove the safety cover.



- 7) Mount clumper bases to each slider according to testing conditions.
 - CAUTION** Tightening torque: 3.0 N·m (do not over tighten screws)



- 8) Mount the minute adjuster to the testing jig (the base frame).
 - CAUTION** Tightening torque: 3.0 N·m (do not over tighten screws)
- 9) Attach the holder to the fixed slider.
 - CAUTION** Tightening torque: 10.0 N·m (do not over tighten screws)



2. OPERATION (DMLHP)

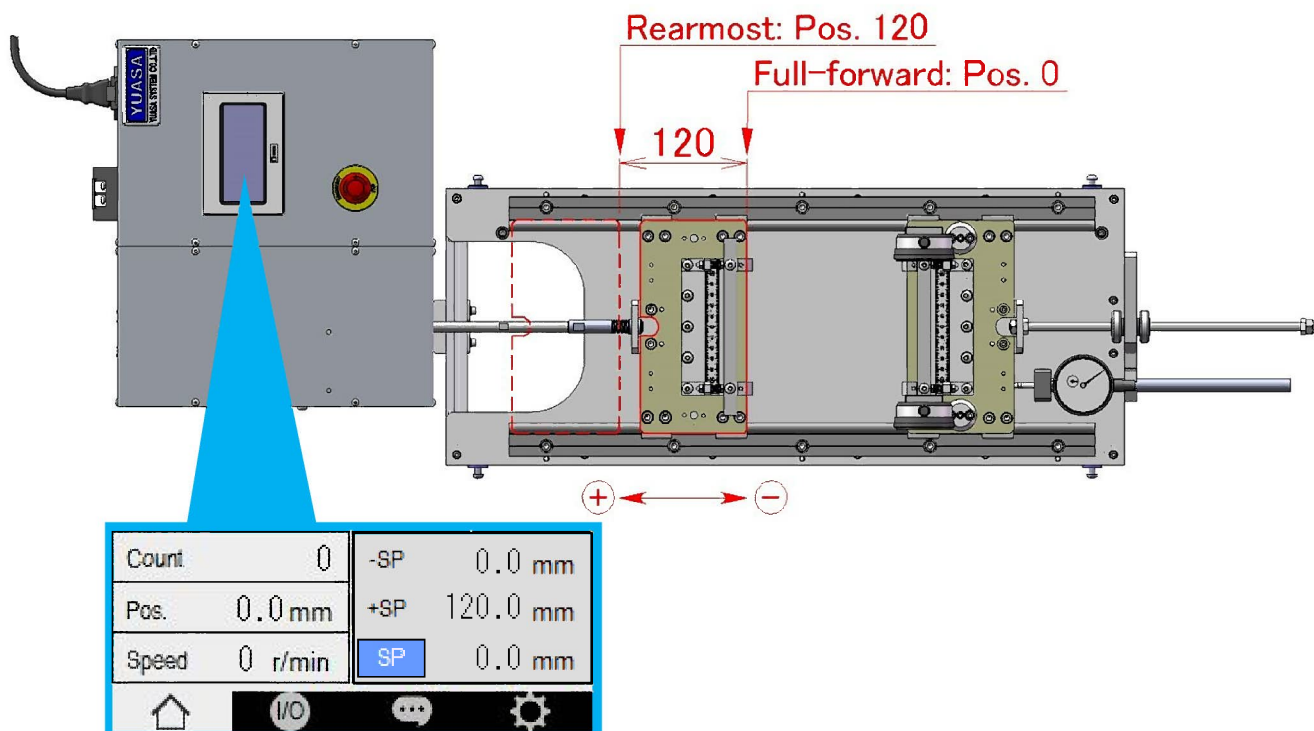
2.1 COORDINATE

In this combination, the testing component moves in the plus direction when it stretches a sample.

NOTE Each end position can be set freely between 0 and 120 mm.

“-SP” means the initial position, “+SP” means the stretched position.

NOTE Refer to an attached manual “DMLHP” for detail.



3. SETTING of TESTING CONDITIONS

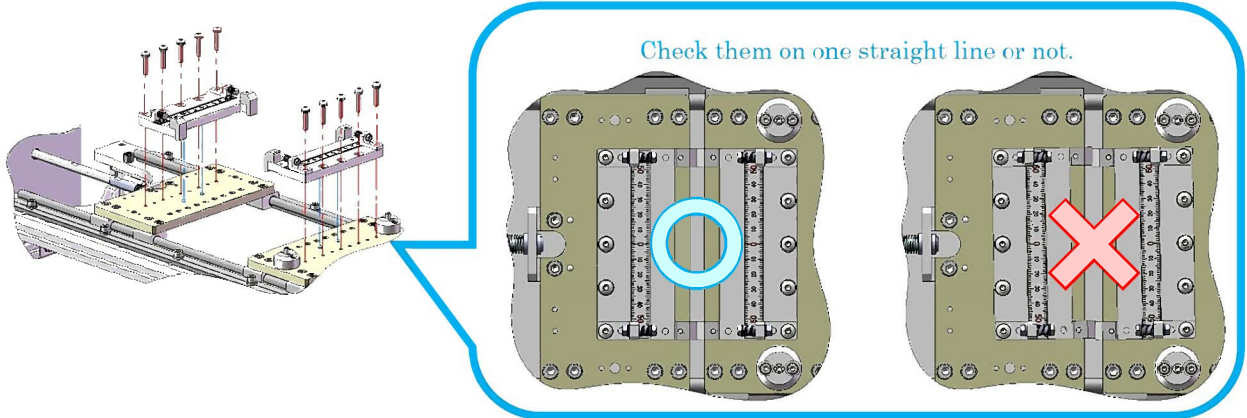
3.1 CLAMPER BASES [Tool: 3 mm Allen wrench]

Can change clamber bases and clamping bars according to testing conditions.

- 1) Loosen screws to remove clamber bases.
- 2) Mount clamber bases on each slider.

CAUTION Tightening torque: 3.0 N·m (do not over tighten screws)

NOTICE Touch each clamber base to each other to confirm they are located on one straight line.



3.2 INITIAL LENGTH [Tool: 3 mm Allen wrench]

- 1) Loosen screws, then move the fixed slider to safety area to prevent from the moving slider crash to the fixed slider.
- 2) Set each moving end position to DMLHP (refer to an attached manual “DMLHP”).
- 3) Operate DMLHP to move the moving slider on the forward end position (the initial position).

INTERLOCK Cannot operate DMLHP when the safety cover is open.

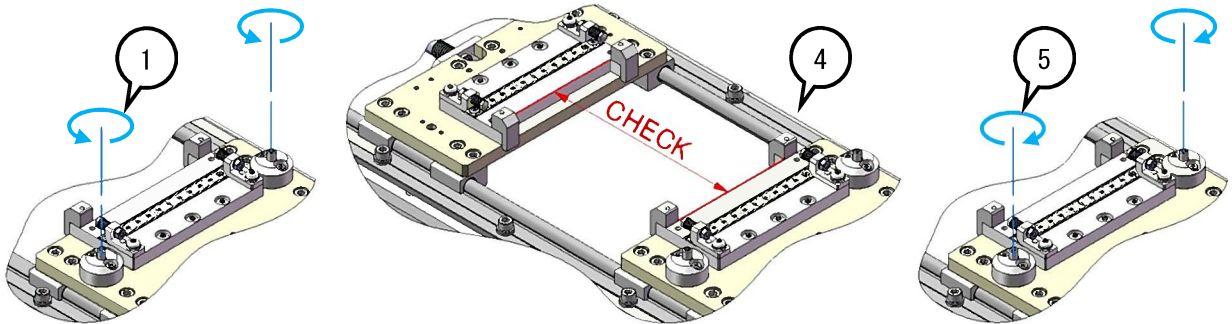
- 4) Measure the gap between a pair of clamber bases to locate the fixed slider.

NOTE The gap means the initial length of the sample.

- 5) Tighten screws to keep the initial position.

CAUTION Tightening torque: 3.0 N·m (do not over tighten screws)

NOTE Can hold the fixed slider even with the minute adjuster

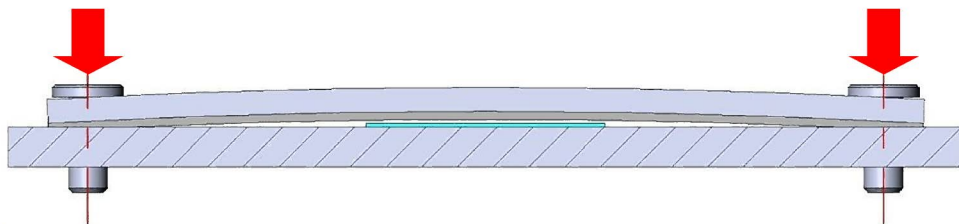


3.3 HOLDING SAMPLE [Tool: 3 mm Allen wrench]

- 1) Set the sample on clamber bases.
- 2) Hold the sample with clamping bars.

NOTE Tightening torque varies according to the testing condition.

CAUTION Clamping bars cannot hold the sample when clamping bars become curve by over tightening torque.



NOTE Improvement ideas

- Adjust tightening torque according to the structure of clamping bars.
- Prepare more stiff clamping bars

3.4 SQUASHING GAUGES

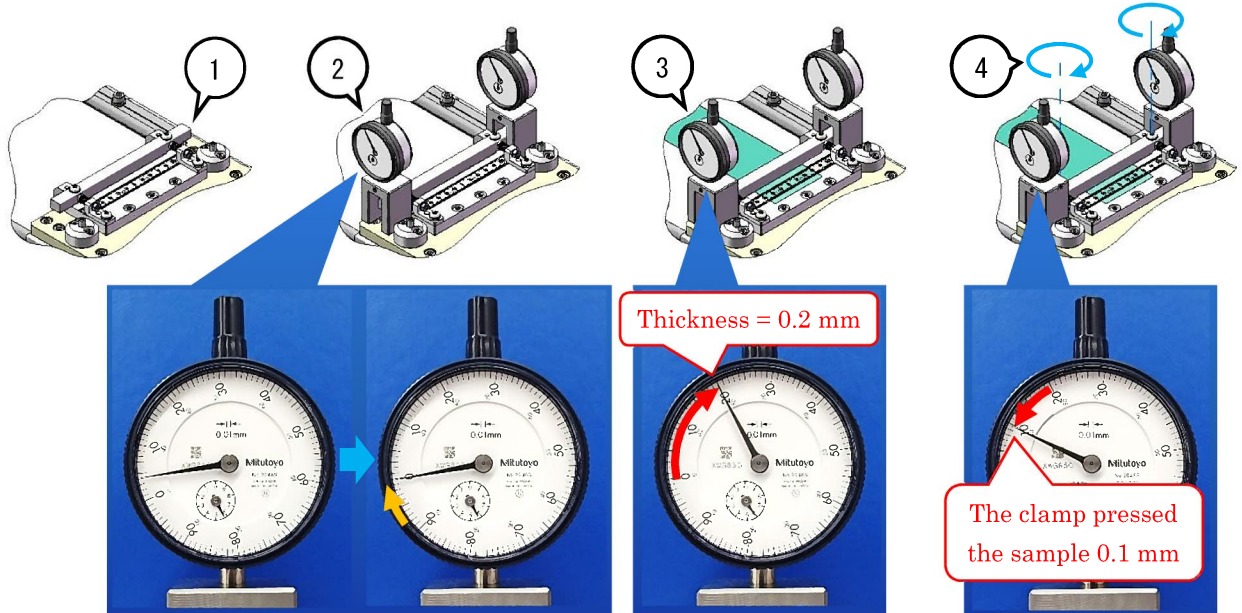
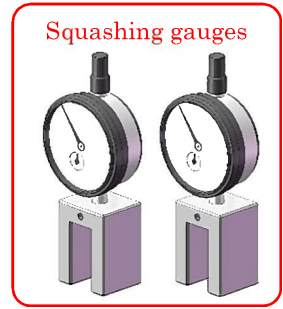
Squashing gauges can measure the gap of the clamp to adjust the holding force.

- 1) Set the clamping bar on the clamber base without the sample.
- 2) Set squashing gauges on each end of the clamping bar, then adjust each dial "zero".
- 3) Insert the sample between the clamping base and the clamping bar.

NOTE Squashing gauges show the thickness of the sample.

- 4) Tighten screws to hold the sample while keeping the gap equally.

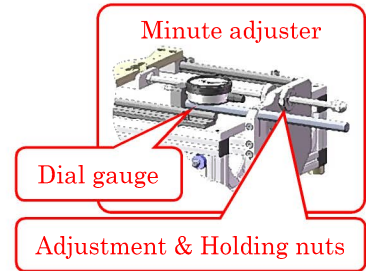
NOTE Tightening torque varies according to testing conditions.



3.5 MINUTE ADJUSTER

Soft and thick samples deform and sag by holding with a clamp.
The minute adjuster support you to hold the sample straightly.

NOTE Combine the minute adjuster and squashing gauges.



1) Operate DMLHP to move the moving slider on the the initial position,
then locate the fixed slider according to testing condition with adjustment & holding nuts.

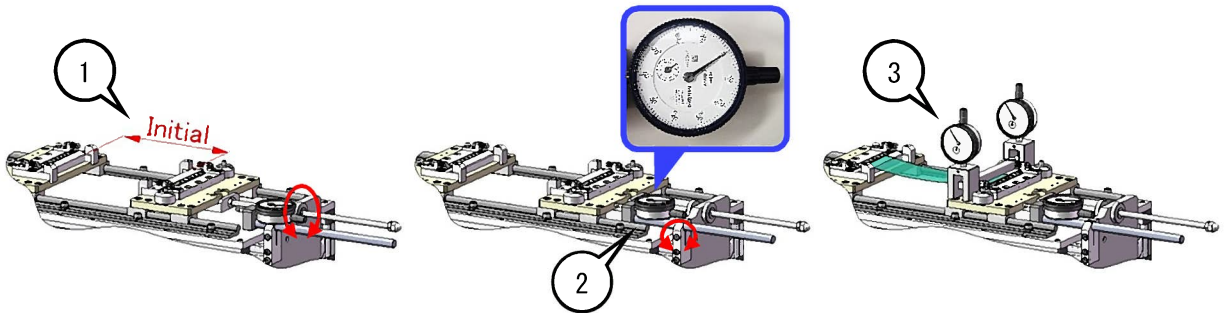
INTERLOCK Cannot operate DMLHP when the safety cover is open.

2) Set the dial gauge to remain the initial position.

CAUTION Tightening torque: 3.0 N·m (do not over tighten screws)

NOTE Push the prove 1 mm or more.

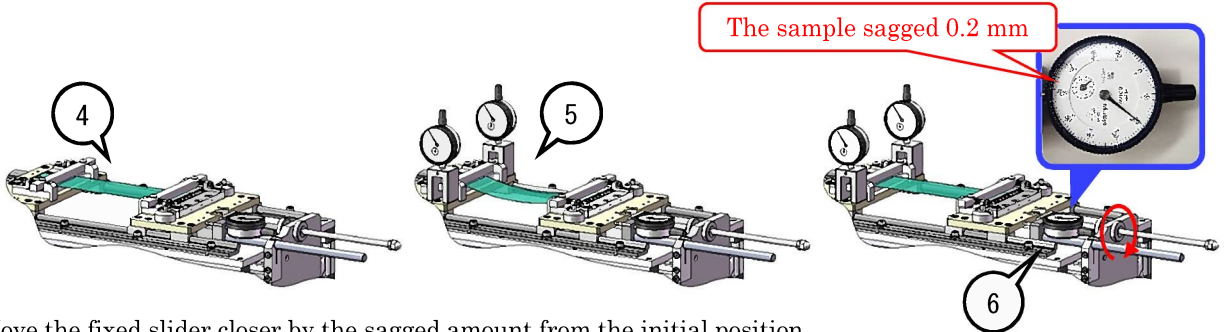
3) Hold the sample onto the fixed slider temporary.



4) Straight the sample.

5) Hold the sample onto the moving slider, thereupon the sample will sag.

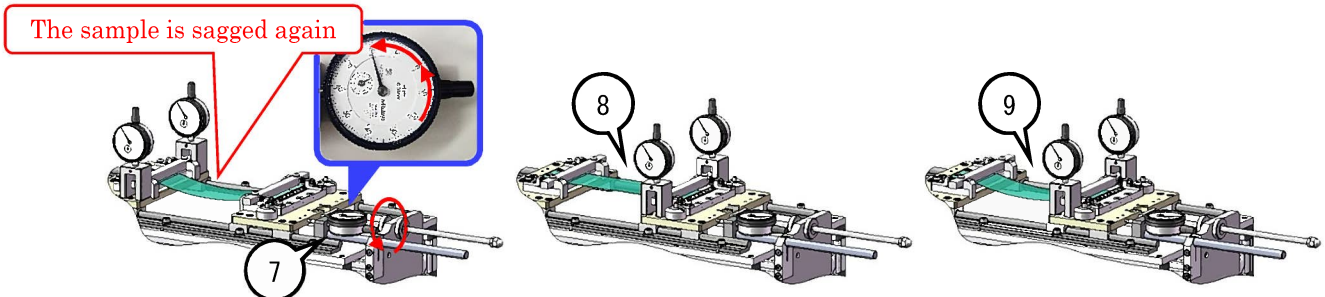
6) Straight back the sample with adjustment & holding nuts, then confirm the indicator (a sagged amount).



7) Move the fixed slider closer by the sagged amount from the initial position.

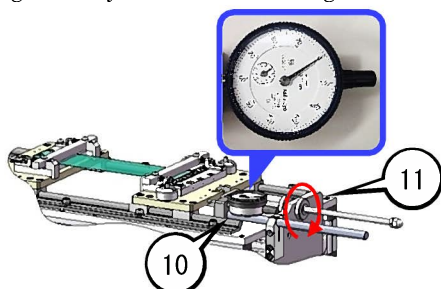
8) Release the sample from the fixed slider to straight back it.

9) Hold the sample onto the fixed slider, thereupon the sample will sag.



10) Move the fixed slider to the initial position to straight back the sample.

11) Tighten adjustment & holding nuts to keep the position.



3.6 SAFETY COVER

WARNING Install a safety cover and prevent access to any moving parts.

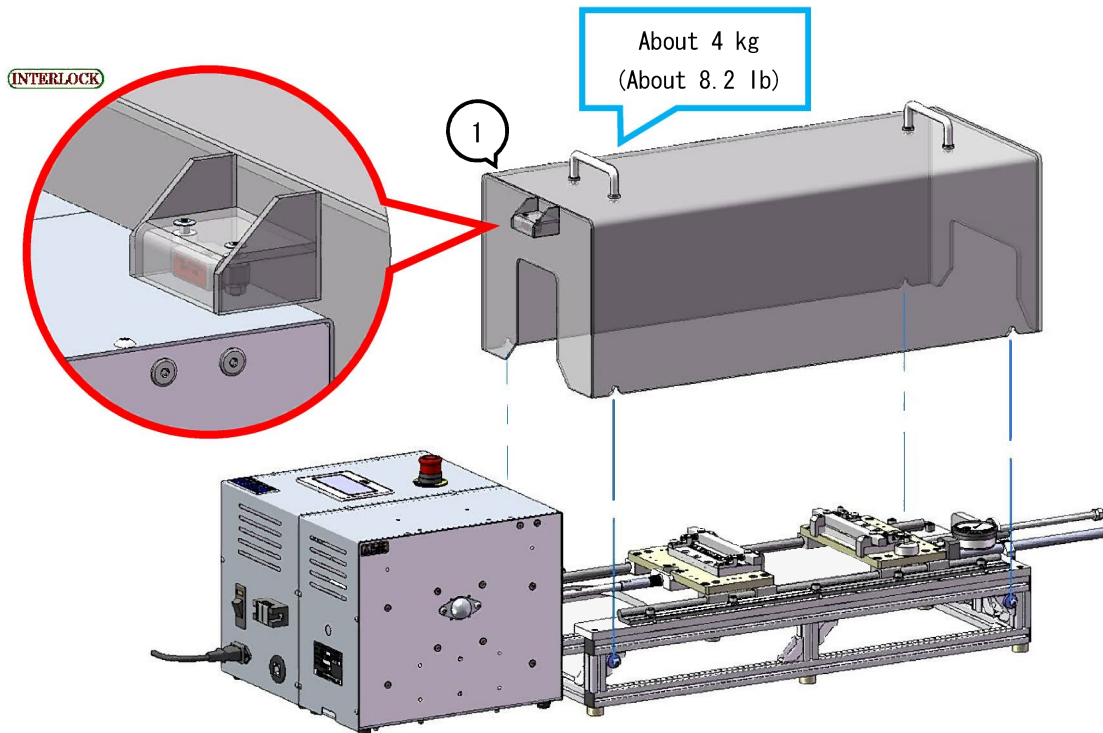
INTERLOCK Cannot operate equipment with the operation panel whenever the safety cover opened.

3.6.1 MOUNTING [Tool: ---]

1) Mount the safety cover on the testing jig.

NOTE Confirm direction of the safety cover as below.

CAUTION Confirm screws are fit in the ditch of the safety cover.



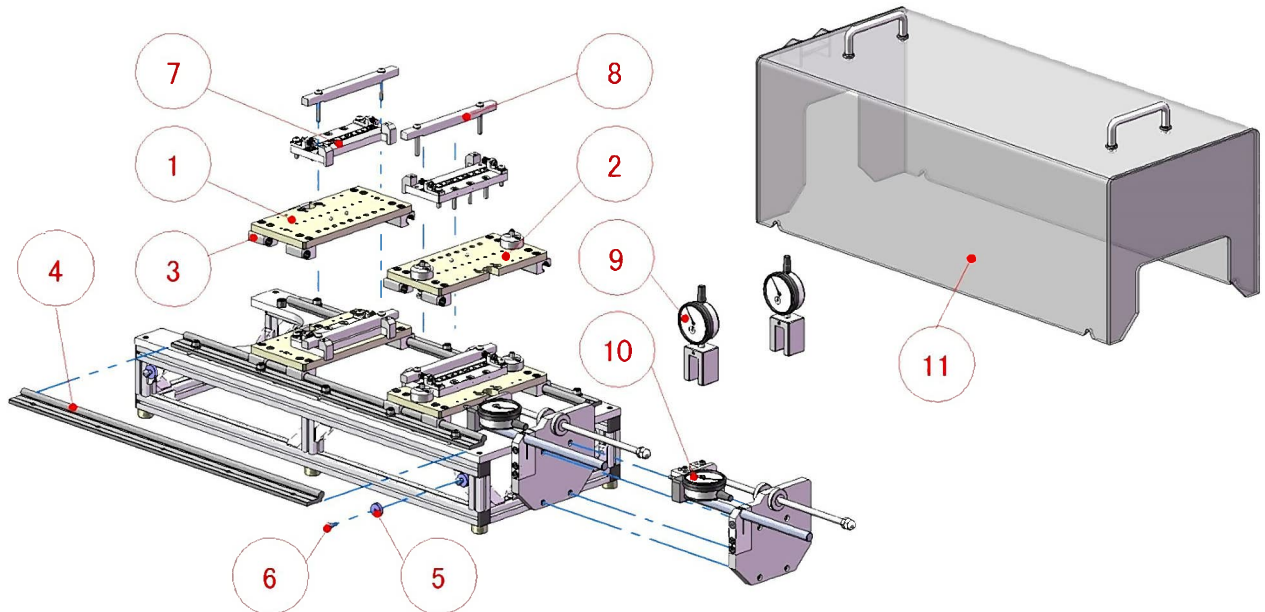
4. MAINTENANCE and INSPECTION

4.1 INSPECTION

This Jig is maintenance-free.

Change to the new one if some components will break because of using condition or aging.

4.1.1 PARTS LIST



No	NAME	TYPE	Num.	MANUFACTURE (MATERIAL)	NOTE
1	Moving slider	ET254005R0001	1	YUASA SYSTEM	No.3 included
2	Fixed slider	ET254005R0002	1	YUASA SYSTEM	No.3 included
(3)	Replaceable liner	J200UMO-01-10	8	igus	
4	Single rail	WS-10-550	2	igus	
5	Resin washer	FWSJM-D18-V4-T5	4	MISUMI	
6	Step screw	DBBS4-6-8	4	MISUMI	
7	Clamper base	ET256A004-002 (*1)	2	YUASA SYSTEM	
8	Clamping bar	ET256A005-002 (*1)	2	YUASA SYSTEM	
9	Squashing gauges	ET256A006-001	1	YUASA SYSTEM	2 gauges / set
10	Minute adjuster	ET256A007-001	1	YUASA SYSTEM	
11	Safety cover	ET500A003-041	1	YUASA SYSTEM	

NOTE *1: Can order clamper bases and clamping bars with other structure, please contact the sales agent.



YouTube help to understand how to set up the testing jig.
Please cover the communication fee.

Quick Reference with Website

Add keywords into the address bar from our website to access the quick reference.



<http://www.yuasa-system.jp/en>



<http://www.yuasa-system.jp/manuals/ET254005M0001>

YUASA

YUASA SYSTEM CO., LTD.

~ Further Improve Reliability

<http://www.yuasa-system.jp> ~

KIBITSU FACTORY:	2292-1, Kibitsu, Kita-ku, Okayama-shi, OKAYAMA 701-1341, JAPAN	Tel. +81-86-287-9030 / Fax. +81-86-287-2298
TOKYO OFFICE:	3F, Shinbashi SN BLDG, 5-7-10, Shinmachi, Minato-ku, TOKYO 105-004, JAPAN	Tel. +81-3-3578-8515 / Fax. +81-3-3578-8516
OSAKA OFFICE:	8F, NLC Shin-Osaka Earth-BLDG, 5-1-3, Miyahara, Yokogawa-ku, Osaka-shi, OSAKA 532-003, JAPAN	Tel. +81-6-6394-8175 / Fax. +81-6-6397-2632

The Contents of the instruction manual may change to improve without notice.