MODEL－1308UH

INSTRUCTION MANUAL

Ver.4.0.2 Issued in October, 2014

AIKOH ENGINEERING

SAFETY INSTRUCTIONS

This page shows important instructions on the safety. Be sure to observe them.
The warning symbols and their meanings are as shown below.

	!WARNING This mark indicates an urgent situation that is likely to cause serious injury or death, should the product be used improperly.

Some of the following warning labels are stuck in the positions that require great attention on our product. The meaning of each label is as shown below.

	Beware of High Voltage Electric wires, devices, etc. are inside. Touching them by mistake may result in electric shocks or electrocution in the worst case.		Don't Get Caught Do not put your hands under the driving mechanism. Otherwise, you may have your hand be caught.
	Don't Have Finger Cut A rotary mechanism is used here. Do not put your fingers into the rotating mechanism. Otherwise, you may have your finger be cut.		Beware of Entanglement Gears are used here. Do not put cloth or any other object that are easily entangled. Do not put on gloves or long-sleeve clothes. They may be entangled.

1. GENERAL

This is a test stand exclusively designed for our “push-pull gauges” and “RZ series”.
In particular, it is the most suitable for our “RZ series”.

Features

- ☐ Multi-voltage design accepts various types of source voltages from 100 to 240 VAC.
- ☐ The maximum stroke of 400 mm provides wide versatility for tensile tests requiring long strokes.
  It is also effective for mounting a jig, etc. on the sample table.
- ☐ The maximum test speed of 300 mm/min is the most suitable for tensile tests, etc.
- ☐ Capable of tests with loads up to 200 N (20 kgf)
- ☐ May be controlled by inputting signals into the external signal input terminals.
  The following controls are available when the Model-1308UH is connected with our “RZ series” using the optional cable “RZ-OP-1” or “RZ-OP-2”.
  The stand stops when an “overload” is applied.
  Setting on the “RZ series” enables load-based stand control.

2. INSTALLATION ENVIRONMENT

Do not install the Model-1308UH in the following places.

- ☐ Install the Model-1308U in as flat place as possible.
- ☐ A place exposed to the direct sunlight
- ☐ At ambient temperature below 0℃ or over 50℃
- ☐ At ambient humidity below 35% or over 85%
- ☐ A place subject to dew condensation due to rapid temperature changes
- ☐ A place with corrosive or inflammable gas
- ☐ A place with much dust, salt, iron powder or soot
- ☐ A place where vibrations or impacts are applied to the stand
- ☐ A place subject to splash of water, oil or chemical
- ☐ A place with a strong magnetic or electric field

3. GENERAL SPECIFICATIONS

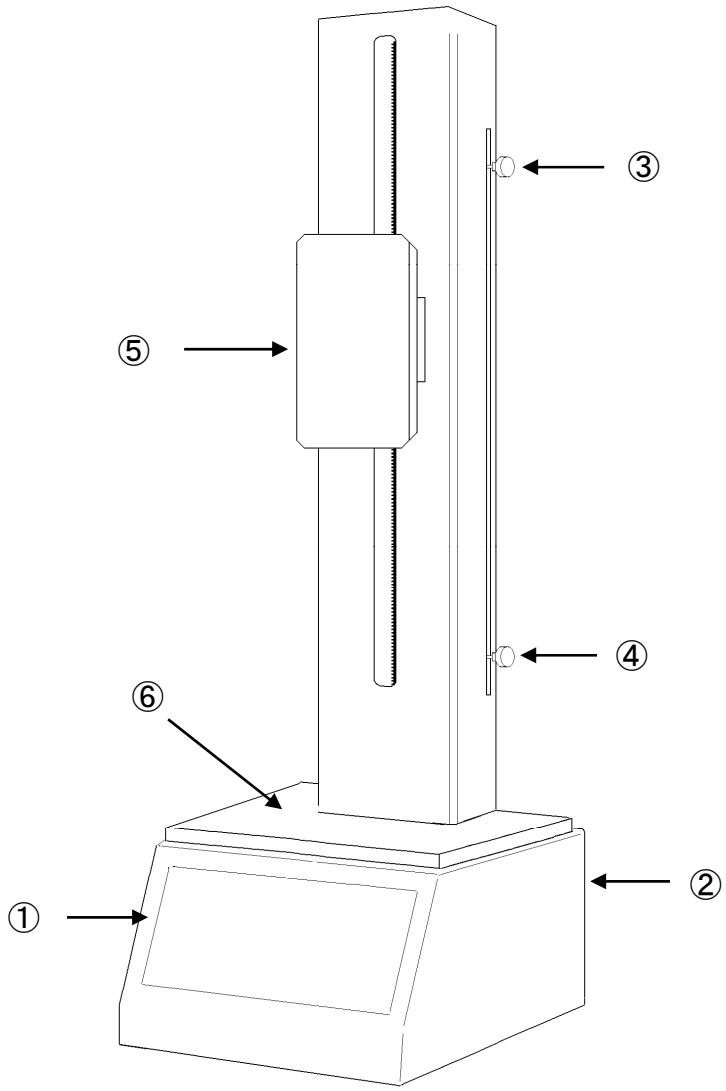
Maximum load	200 N (20 kgf)
Test speed	10 to 300 mm/min, variable
Stroke	400 mm
Input power	100 to 240 VAC, 50/60Hz, multi-voltage design
Power consumption	10 VA or less
Safety device	0.5 A circuit protector
Table size	150 x 140 mm
	(5-mm dia. tapped holes for mounting jig: Four positions)
Weight	Approx. 20 kg

4. ACCESSORIES

- ☐ 3P AC power cable (with NEMA plug): 1
- ☐ Instruction manual of Model-1308UH: 1 copy
- ☐ Cap bolt, M4 x 10 (for digital push-pull gauge): 4
- ☐ 3-mm wrench: 1
- ☐ 4-mm wrench: 1

5. FUNCTIONS OF COMPONENTS

【Body】



① Operation panel: Operation of the tester is carried on this panel.
See the separate description.

② I/O panel: Ac power, etc. are input to this panel.
See the separate description.

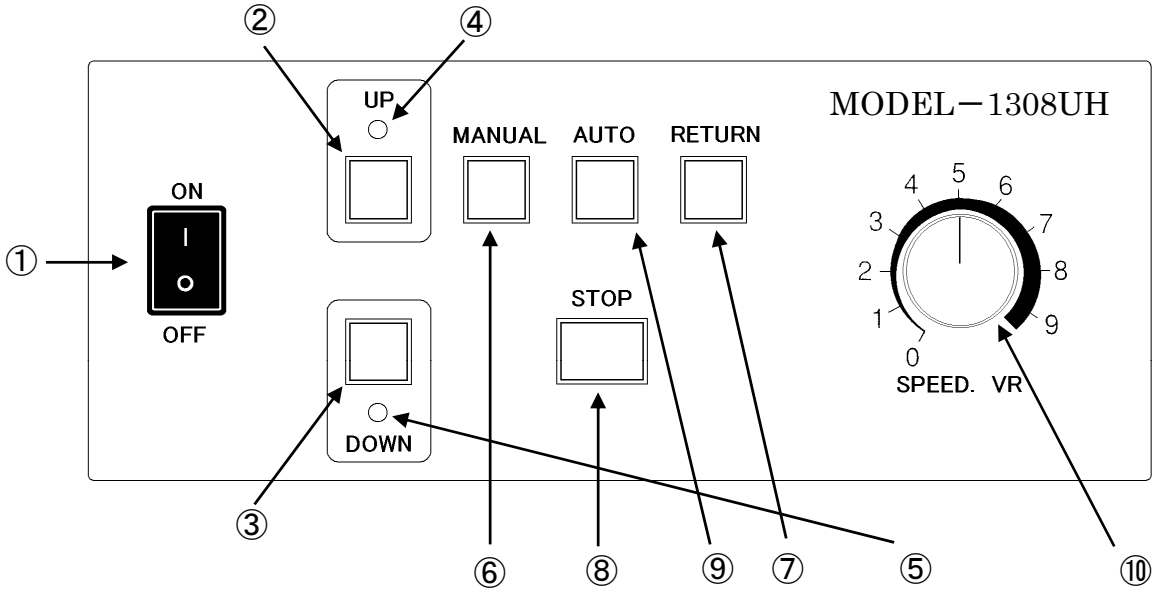
③ Upper limit knob: The upper limit of the driving range may be freely set with this knob.

④ Lower limit knob: The lower limit of the driving range may be freely set with this knob. ③ and ④ are screw type knobs. Loosen the screw, move the knob to any position, and tighten the screw to fix the knob. (The head lowers by 1 to 1.5 mm from the point where it contacts with the limit ring and stops then.)

⑤ Gauge mount plate: Fix a gauge to this plate.

⑥ Sample table: Place a sample or jig on this table and conduct a test. The sample table has four tapped holes (M5) for mounting a jig.

【Operation Panel】



① Power switch: Press the ON-side position of this switch to turn on power. Press the OFF side to turn off power.
The test stand will not operate when it is turned off.

② UP button: *When MANUAL is lit
The gauge mount plate keeps moving up only while the button is held. It stops moving when the button is released. Use this button for position adjustment before starting a test.
*When AUTO is lit
Once the button is pressed, the gauge mount plate keeps on moving up. It stops when the STOP button is pressed or it reaches the upper limit.

③ DOWN button: *When MANUAL is lit
The gauge mount plate keeps moving down only while the button is held. It stops moving when the button is released. Use this button for position adjustment before starting a test.
*When AUTO is lit
Once the button is pressed, the gauge mount plate keeps on moving down.
It stops when the STOP button is pressed or it reaches the lower limit.

④ UP LIM lamp: This lamp indicates the upper limit. It goes on when the moving gauge mount plate reaches the upper limit.

⑤ DOWN LIM lamp: This lamp indicates the lower limit. It goes on when the moving gauge mount plate reaches the lower limit.

⑥ MANUAL button: Press the button to select the manual mode.
In the manual mode, the gauge mount plate moves only while the UP or DOWN button is held.

⑦ RETURN button: Pressing this button activates the return circuit once.
With the return circuit active, the gauge mount plate returns and moves in the reverse direction when it reaches the limit switch built in the test stand.

＊ Pressing the RETURN button takes precedence over a signal input from outside. Therefore, any signals input to the STAND CONTROL terminals are invalid while the return circuit is active.

＊ Deactivate the RETURN button if the STAND CONTROL terminals should take precedence.

⑧ STOP button: Press this button to stop operation.

⑨ AUTO button: Press this button to select the automatic mode.
When the UP or DOWN button is pressed once in the automatic mode, the gauge mount plate keeps on moving in the corresponding direction.

⑩ SPEED VR: This knob varies the up/down speed.
Counterclockwise rotation (toward MIN) reduces the speed.
Clockwise rotation (toward MAX) increases the speed.

Lamp Functions

The indicator lamps on the operation panel have the following functions.

When power is turned on

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States			On			On		

In MANUAL mode

Upward movement: Gauge mount plate moves up only while the UP button is held.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States	On					On		

When stopping at the upper limit

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States		On	Blinks			On		

Downward movement: Gauge mount plate moves down only while the UP button is held.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States				On		On		

When stopping at the lower limit

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States			Blinks		On	On		

In Auto mode

Upward movement: Gauge mount plate moves up once the UP button is pressed.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States	On						On	

When stopping at the upper limit

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States		On	Blinks				On	

Downward movement: Gauge mount plate moves down once the DOWN button is pressed.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States				On			On	

When stopping at the lower limit

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States			Blinks		On		On	

Return (reciprocal) operation

Example: Gauge mount plate moves down and then stops at the upper limit.

Gauge mount plate moves down once the DOWN button is pressed.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States				On			On	On

↓

When reaching the lower limit (Indication is given instantaneously.)

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States			Blinks		On		On	On

↓

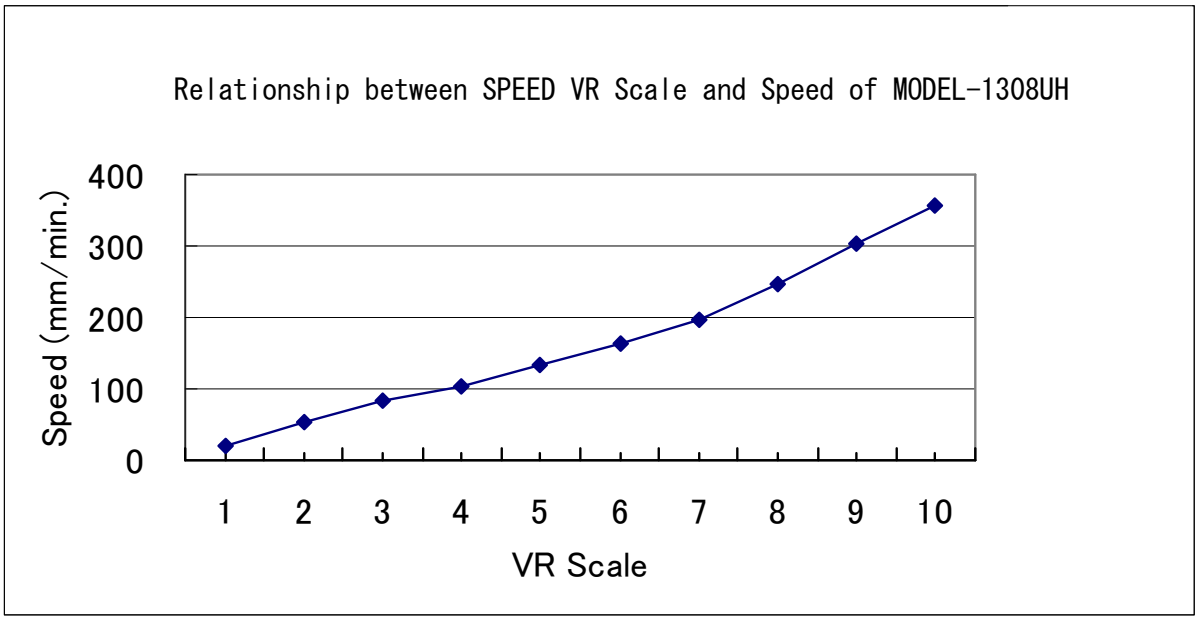
Gauge mount plate reaches the lower limit and moves up immediately.

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States	On						On	Blinks

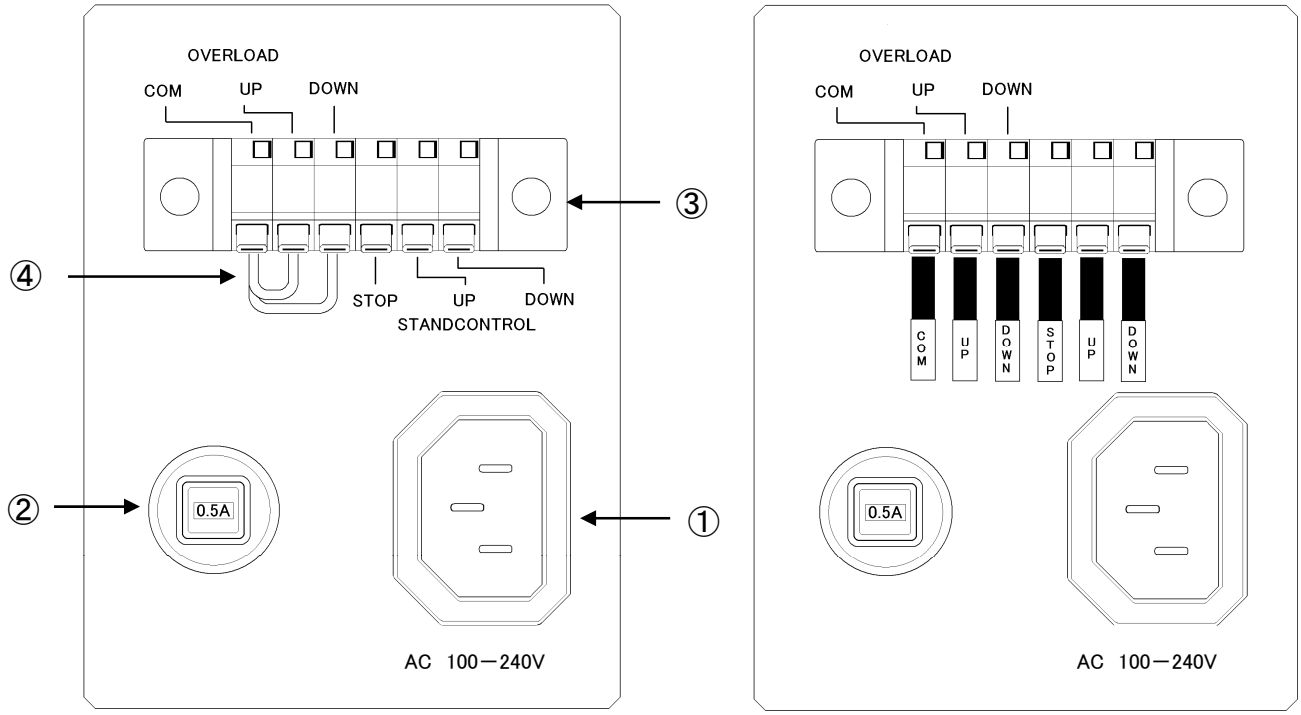
↓

When reaching the upper limit

Lamps	UP	UP LIM	STOP	DOWN	DOWN LIM	MANUAL	AUTO	RETURN
States		On	Blinks				On	On



【Sub Panel】



① AC plug receptacle:

Connect the AC cable supplied with the test stand.

Press the plug to the end to avoid overheat or poor contact.

② Circuit protector:

This protector protects over-current.

It cuts off and stops power supply when current over the rating flows through the test stand.

③ Input terminals:

Input overload and external control signals to these terminals.

Connect the terminals of the optional cables.

The OVERLOAD COM, UP and DOWN terminals are shorted before shipment.

The terminals are arranged as shown below from the left:

OVERLOAD

COM: Common GND terminal

UP: Upper overload signal input terminal

DOWN: Lower overload signal input terminal

STANDCONTROL

STOP: Terminal for inputting the signal for stopping the test stand.

UP: Terminal for inputting the signal for moving up the test stand.

DOWN: Terminal for inputting the signal for moving down the test stand.

*The COM line of the OVERLOAD and STANDCONTROL is used commonly in the RZ gauge.

④ Shorting jumper pins:

These jumper pins have been connected before shipment.

Disconnect these shorting jumper pins and connect the OVERLOAD lines of the optional cable when the OVERLOAD terminals are used.

When Using Optional Cable RZ-OP-1 & RZ-OP-2 for RZ Series

Disconnect the shorting jumper pins ④ from between the COM and UP terminals and between COM and DOWN terminals of the test stand.

Model-1308UH terminals RZ-OP-1/2

Panel display			Cable marking	
OVERLOAD			Wire color	Marking
	COM		Pink	COM
	UP		Yellow	UP
	DOWN		White	DOWN
STANDCONTROL				
	STOP		Green	STOP
	UP		Orange	UP
	DOWN		Purple	DOWN

Lead wire not shown above

External holding (Gray) --- Do not short-circuit this wire with any other wire when unused.

External resetting (Blue) --- Do not short-circuit this wire with any other wire when unused.

＊External input GND (brown) --- Do not short-circuit this wire with any other wire when unused.

6. GENERAL PREPARATION

Make preparation in the following procedures.

1. Detach the gauge mount plate from the test stand.
   (It is fixed with four M5 cap bolts.)

2. Attach and fix the gauge to the gauge mount plate.
   Digital gauge: Four M4 x 10 cap bolts
   Push-pull gauge: Four M3 x 15 cap bolts
   (Different holes are used to mount the digital gauge and push-pull gauge.)
   ＊Mount the gauge onto the plate firmly.

3. Attach the gauge mount plate to the test stand with the M5 cap bolts removed above.
   ＊ Attach the gauge mount plate to the test stand firmly.

4. Connect the AC power cable between the AC plug receptacle on the test stand and an AC outlet carrying 100 to 240 VAC.
   Connect the GND wire of the power cable to the GND terminal for safety.

5. Make sure that the cable is connected properly. Then, throw the switch.
   (The STOP and MANUAL lamps go on.)

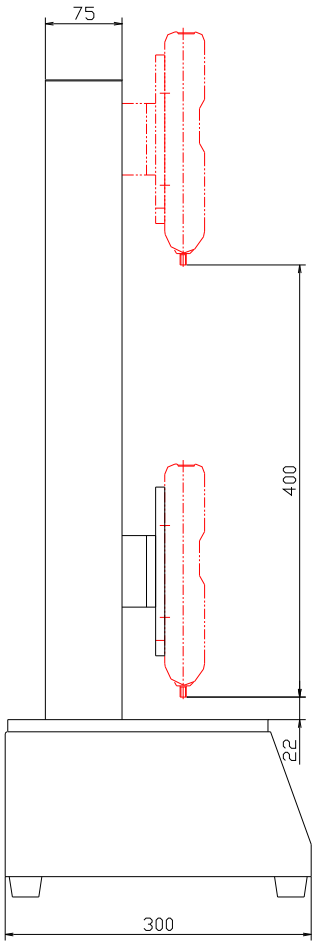
6. Determine the test speed.
   See the graph “Relationship between SPEED VR Scale and Speed of Model-1308U” above and decide the test speed properly as shown below.

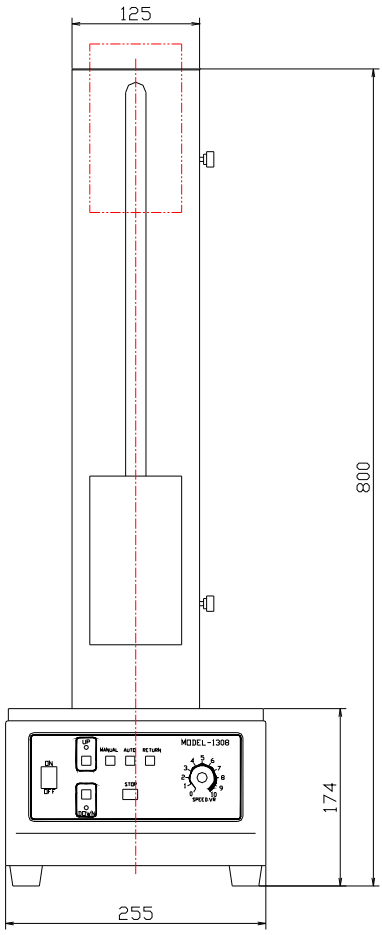
   The sample is hard and the maximum load of measured values is low: Low speed
   The sample is rather soft: Middle speed
   The sample is soft and has a large elongation ratio: High speed

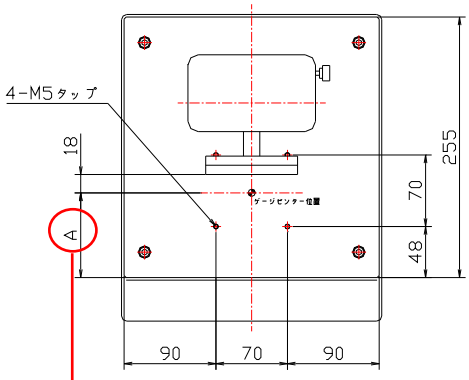
   The above merely show the standard for preventing damage and breakage of the measuring instrument.
   Be sure to start measurement from the low speed if the properties of the sample and the measurement load are unknown.

7. Jig
   The weight of the jig on the gauge side must be 15% or less of the maximum load.

7. OUTSIDE DIMENSIONS







MODEL	Dimension A
RZ/RX series	82
9800 series	82
9500 series	82
AWF/ANF series	84

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