

Surface Stress Meter Ver 2013.11.27

FSM-6000LE Standard / Premium



The FSM-6000LE series is developed for measuring the surface stress of glass using a PC.

Chemical and thermal tempering is increasing the areas of glass application in most of industries.

The optical waveguide effect in the surface layer of tempered glass is a useful tool for measuring surface stress for quality and process control purpose.

New Software

We prepared two kinds of software, Standard and Premium. These have more convenient function as compared to the older version.
(It needs separately sold device in some case)

Standard / Premium

- o Measure glass thickness automatically using glass Thickness Meter
- o Measure surface stress in wide view using Wide Angle Camera
- o Output measurement data

Premium

- o Judge OK/NG
- o Continuous measurement using attached One-touch switch

Upgrade software to the latest version is available.

*Please see the each catalogue for the details.

Optional device

Auto dispenser FSM-DP01

*Please see its catalogue for the details.

Function table of Software

	FsmXP ver2013.11.27		old ver.
	Standard	Premium	
Normal measurement	○	○	○
Thickness measurement *1	○	○	×
Wide angle measurement *2	○	○	×
Output (RAM) *3	○	○	×
Output (RS232C)	○	○	×
Judgment	×	○	×

*1 Required optional Glass Thickness Meter FSM-GT01

*2 Required optional Wide Angle Camera 285-BW-OHS

*3 Required virtual RAMDISC software(Please prepare it by yourself)

Specification

Range	: Stress 0-1000Mpa (Wide angle 0-1500MPa) Depth 10-100μm (Wide angle 10-150μm)
Accuracy	: ±20Mpa
Light source	: LED 595±10nm
Sample	: chemical tempered glass, thermal tempered glass
Sample size	: flat over 10 × 10mm
OS	: Windows 7
Size	: 280 × 600 × 220mm(head), 360 × 102 × 410mm(PC), 250 × 400 × 400(mm)monitor)
Weight	: 14kg(head), 7.9kg(PC), 3kg(monitor)

Software FsmXP

ver2013.11.27 for FSM-6000LE

This software is installed in attached PC as special software for FSM-6000LE. We prepared two kinds of software, one is “Standard”, and another is “Premium”. These have more convenient function as compared to the older version. We would suggest to upgrade software to the latest version.

Function table

	FsmXP ver 2013.11.27		FsmXP old ver	Fsm(E)
	Standard	Premium		
Normal measurement	○	○	○	○
Thickness measurement *1	○	○	×	×
Wide angle measurement *2	○	○	△ *4	×
Output (RAM) *3	○	○	×	×
Output (RS232C)	○	○	×	×
Judgement	×	○	×	×
One-touch switch	×	○	×	×
Detecting incline of interference fringe	○	○	○	×
Supported OS	Win7, XP	Win7, XP	Win7, XP	Win XP

*1 Required optional Glass Thickness Meter FSM-GT01

*2 Required optional Wide Angle Camera 285-BW-OHS

*3 Required virtual RAMDISC software (Please prepare it by yourself.)

*4 Unavailable for some version

Standard / Premium

- Measure glass thickness automatically using Glass Thickness Meter
- Measure surface stress in wide angle using Wide Angle Camera
- Output measurement data

Premium

- Judge OK / NG
- Continuous measurement using attached One-touch switch



One-touch switch

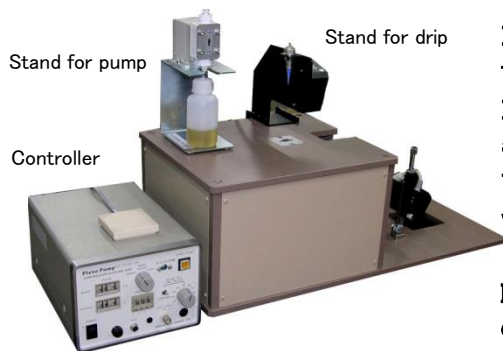


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URL: <http://www.luceo.co.jp>

Auto Dispenser FSM-DP01



It use the Piezo pump, for this reason it have precise part flowing and long life.

It does not need to repack the liquid and use the compressed air. So it can make a continuous flow.

This product make your work more efficient and cut the wasted use of immersion liquid.

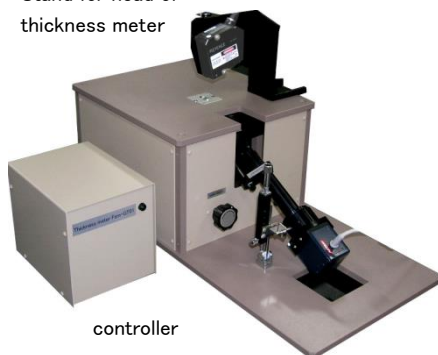
It is impossible to custom made about stand for pump and drip.

Specification

Pump manufacture	: NIPPON KEIKI WORKS, LTD.
Model	: pump C07H-TPN-01 , controller NS-02DS-NF
Range	: 0.5 μ l ~ /1 drop
Power source	: AC100V, 50/60Hz (controller)
Size	: 180 \times 130 \times 250mm (controller), 80 \times 110 \times 120mm (stand for pump) 200 \times 70 \times 170mm (stand for drip)
Weight	: 3.7kg (contorller), 0.8kg (stand for pump), 8.0kg (stand for drip)
Accessories	: switch, bottle for immersion liquid (PE) , immersion liquid 100ml, spare tip for drip 1pc

Thickness Meter FSM-GT01

Stand for head of thickness meter



It can measure the surface stress and the thickness of sample at the same time.

The calculation of the central tension needs the thickness.

It inputs the thickness result automatically.

Because of using a high precision thickness meter , It can measure the thickness stable.

It is impossible to custom made about stand for head of thickness meter.

Specification

Thickness meter manufacture	: KEYENCE
Model	: LK-H055 (head) , LK-G5000 (controller)
Sample	: clear glass
Range	: \pm 10mm
Accuracy	: \pm 5 μ m
Power source	: AC100 ~ 240V
Size	: 200 \times 70 \times 170mm (include stand) 、 185 \times 140 \times 160mm (controller)
Weight	: 8.2kg (include stand) 、 2.5kg (controller)
Other function	: calibration for adjust the refractive index

This function need the software for FSM-6000LE(FsmXP Standard of Premium)

For customer who use the old version of FSM-6000LE

It need to upgrade software to FsmXP Standard of Premium. Please see the software catalogue.

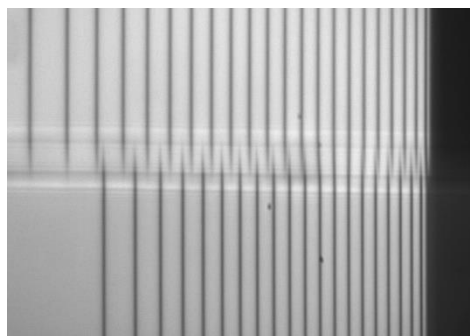
Wide Angle Camera 285-BW-OHS

Some of the tempered glass can not be measured.

Because they have too high surface stress (over 1000 MPa) or too deep depth of layer to measure.

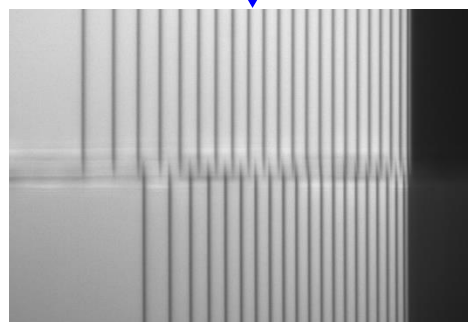
This camera has more wide angle than the standard camera and it solves the above issue.

And it has higher quality, you can measure keeping the previous accuracy.



Standard camera

↓ 20%UP



Wide angle camera

Specification

Camera manufacture	: ARTRAY CO., LTD.
Power source	: developed from PC of FSM-6000LE
Size	: 80 × 50 × 50mm
Length of cable	: 2m
Weight	: 300g
Accessories	: holder 1pc(installed to camera) , separate filter 1pc (installed to camera) lens (200mm) 1pc*

This function need the software for FSM-6000LE(FsmXP Standard of Premium)

*It needs to exchange the lens.

Please exchange in accordance with the procedure by yourself.

After exchanging the camera and the lens, FSM-6000LE needs calibration.

For customer who use the old version of FSM-6000LE

It need to upgrade software to FsmXP Standard of Premium. Please see the software catalogue.



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