



DIGITAL INDICATE

**PROTEC**  
ENGINEERING

# METAL MASK TENSION GAUGE

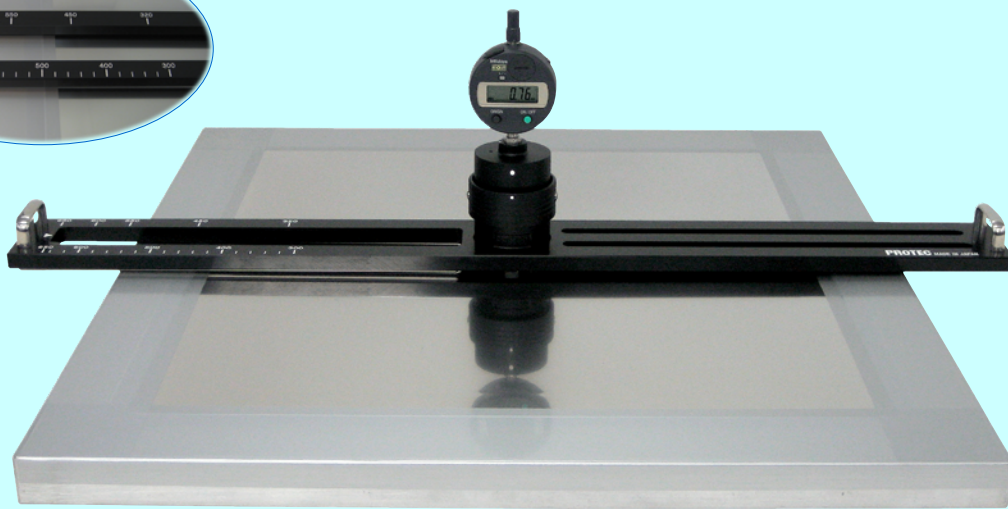
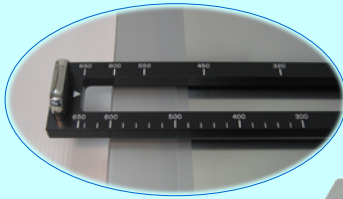
## MODEL MTG-08A

Have you had any doubt on tension measurement of metal masks?  
We can solve that question.

**Long-awaited new tension gauge for metal masks is now on sale!**

PROTEC, with almost 100% share of tension gauges for screen masks, provide a new tension gauge with confidence that is exclusively designed for metal masks.

《can be imported data to PC.》

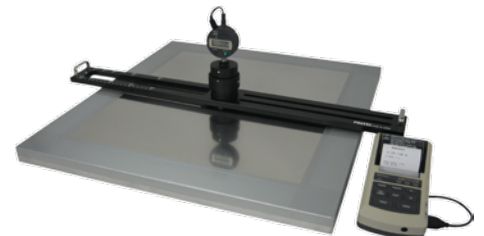


\*Choose from 500, 700, or 1000 according to the frame size. (Other sizes are also available by custom-design)

Conventionally, metal mask was measured its tension by screen mask tension gauges such as our STG-75 and STG-80. STG series, however, have supporting points positioned in the metal parts. Different from screens, metal hardness caused a major impact, and we could not get precise measurement. This new MTG-08A is an ideal tension gauge for whole span of metal masks, as it employs its supporting point outside of metal masks (frame). As well as STG series, MTG-08A is handy and easy to use, featuring calibration for checking measurement point as standard equipment. Take this opportunity to try this new MTG-08A designed for metal masks

### Main specifications

| Subject                                   | model | MTG-08A-500                      | MTG-08A-700 | MTG-08A-1000 |
|---|-------|----------------------------------|-------------|--------------|
| Usage                                     |       | All metal masks                  |             |              |
| Display                                   |       | Digital display                  |             |              |
| Measurement range                         |       | 0.00mm~2.50mm                    |             |              |
| Data output                               |       | With output terminal             |             |              |
| Directionality of measurement             |       | Yes                              |             |              |
| Adaptation frame size (the external form) |       | ~480mm                           | ~680mm      | ~980mm       |
| Measurement load                          |       | 500g                             |             |              |
| Form of measuring head                    |       | Semicircle                       |             |              |
| Power source                              |       | One silver oxide battery         |             |              |
| Weight (g)                                |       | 2,100                            | 2,300       | 2,600        |
| Option                                    |       | Printer DP-1VA, connecting cable |             |              |



Option for digital type: Printer

\* Specifications and design details may be subject to change.

Manufacturer:

**PROTEC**  
ENGINEERING

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for more information:

# METAL MASK TENSION GAUGE

## Introduction of MTG-08A

### 【1.Preface】

In a screen mask tension gauge “STG-75”, “STG-80”, the tension of a metal mask was not able to be measured with sufficient accuracy. Therefore, in the substrate mounting industry, it was years of subject to manage the tension of a metal mask appropriately.

In order to solve this, we developed the metal mask tension gauge “MTG-08A” lately.

### 【2.Principle of MTG-08A】

The STG series for screen masks (STG-75, STG-80) has been used also for tension measurement of the conventional metal mask.

However, since the fulcrum portion at the time of measurement was located in a metal in the case of STG series (Fig.1), the influence of gauge weight and the influence of metal hardness were great, and an exact tension value was not acquired.

At MTG-08A only for a metal mask, tension measurement with the ideal whole mask was attained by putting a fulcrum on the mask outside (frame portion). (Fig.2)

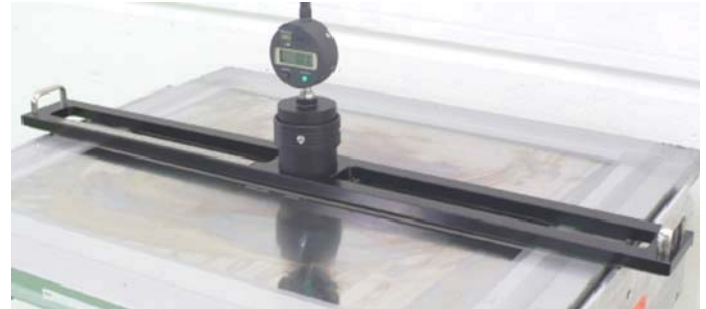


Fig.1

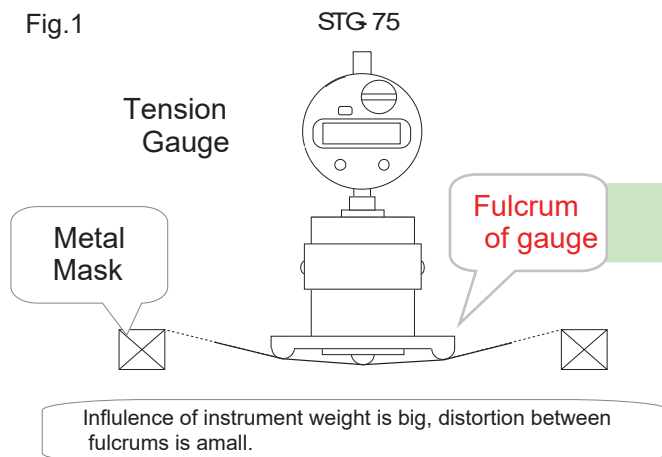
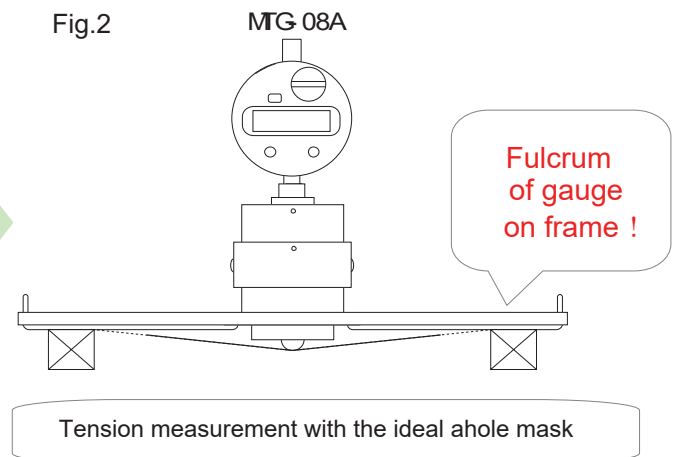
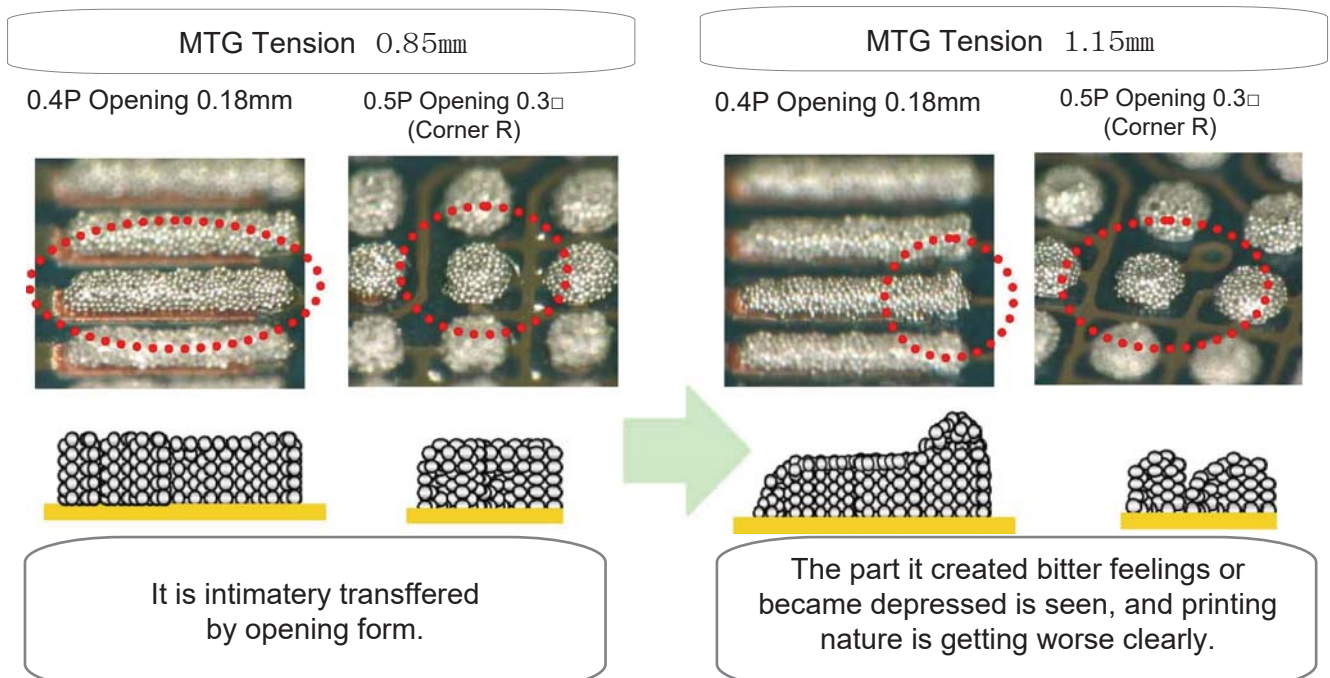


Fig.2



### 【3.Influence of Tension】

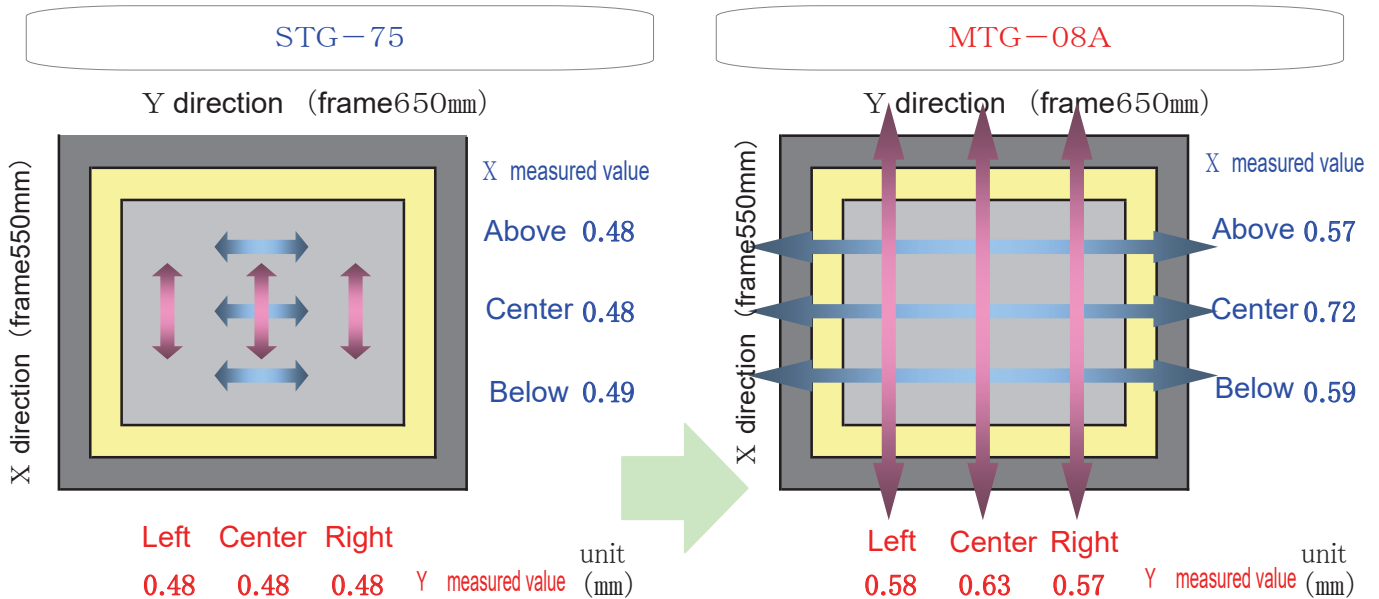
A metal mask tension shows how much printing nature is influenced.



# METAL MASK TENSION GAUGE Introduction of MTG-08A

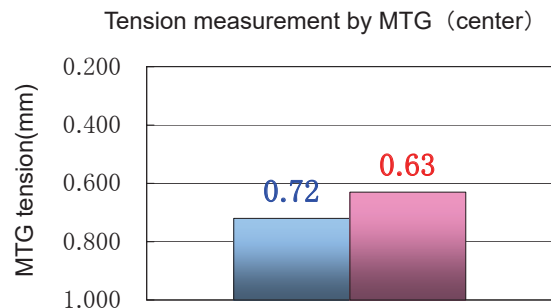
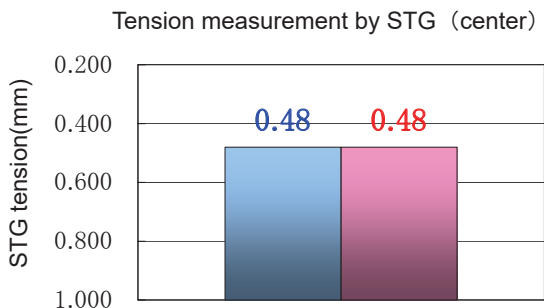
## 【4. Comparison of MTG and STG】

The same metal mask was measured by STG-75 and MTG-08A. It is comparison of the result.



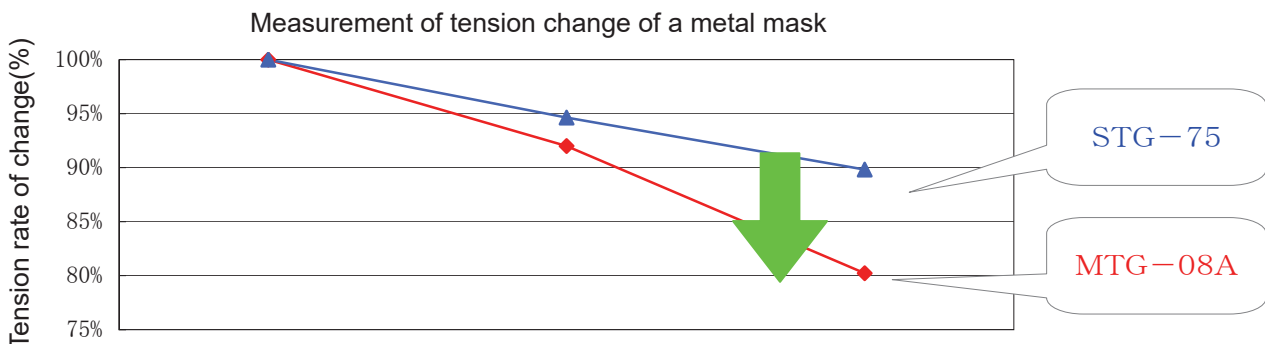
The unevenness of measurements is 0.01mm. It is not changeful wherever it may measure.

The unevenness of measurements is 0.15mm. It is changeful to measurements in a center and the surroundings.



X and Y are visible to the tension with sufficient balance.

Variation appeared in X and Y



The tension change by mask use does not appear in STG.

As mentioned above, by utilizing the metal mask tension gauge, it precedes with the industry and can manage masks original with you.  
We think that this metal mask tension management leads to the improvement in the printing yield and the printing quality.