

# **DT-25**

## **Soft Material Thickness Gauge**

# User Manual

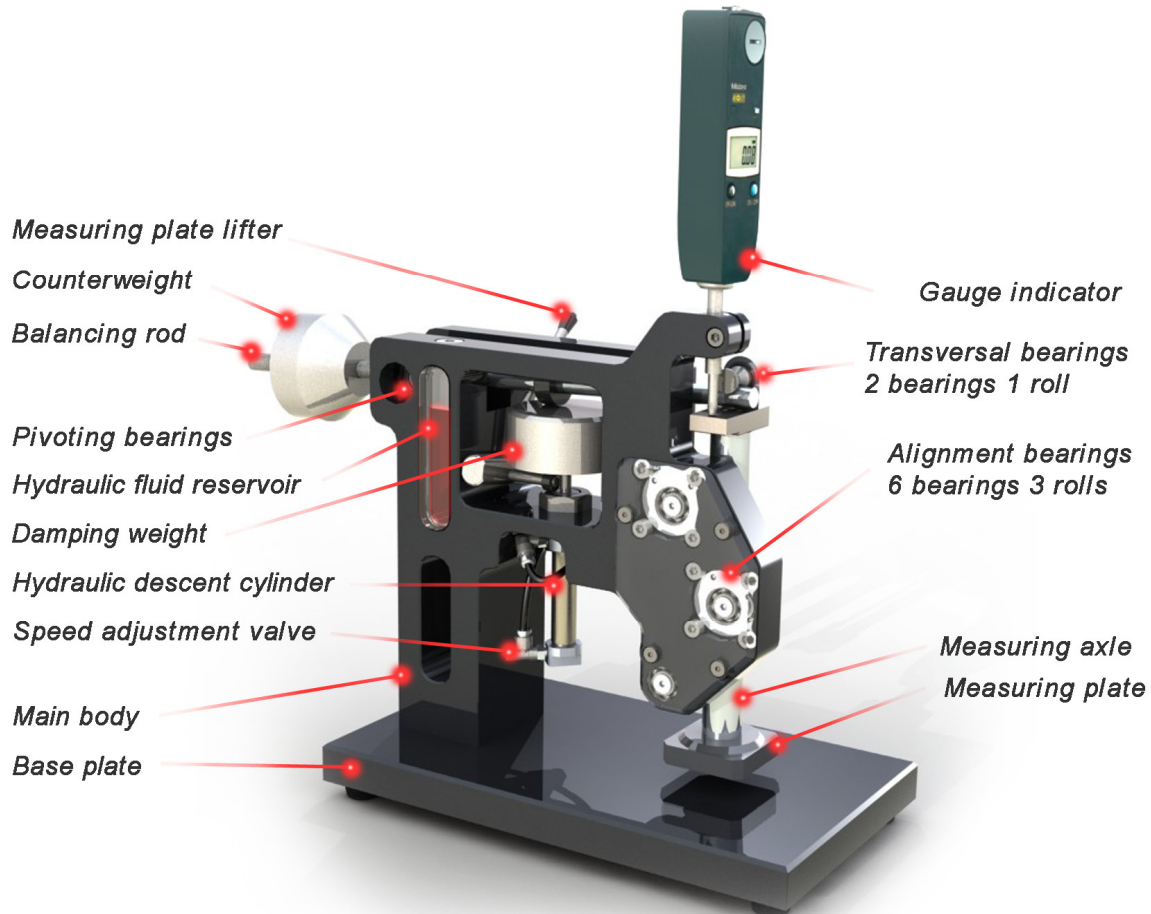
### **Application**

The instrument is intended for measuring of thickness of products, cores, surface materials, wadding etc.

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# 1 Instrument description



## 1.1 Components

- One Mitutoyo gauge indicator with serial port data output (RS232).  
The resolution is 0.01 mm and the accuracy 0.02 mm.
- A damping unit consisting of a hydraulic cylinder with a valve.  
The descent speed of the measuring plate is adjusted and calibrated with the adjusting screw.
- One balancing rod for adjustment and calibration of the load of the measuring plate.
- One adjustable linear unit with three pairs of bearings, of which two are eccentric for precise adjustment of the axle.

## 2 How to perform a measurement

### 2.1 Preparation

1. Place the instrument on a planar and stabile foundation.
2. Press the On/Off- button on the Mitutoyo gauge indicator.
3. Tare the gauge by pressing the Origin button for about 2 s when the measuring plate is on the base plate.

### 2.2 Measuring procedure

1. Lock the measuring plate in the upper position with the measuring plate lifter.
2. Place the sample under the measuring plate.
3. Lower the measuring plate by releasing the measuring plate lifter.
4. After specified time, depending on method, read the result and raise the measuring plate to the upper position.

### 2.3 After measuring ended

The measuring plate must rest on the base plate while not used for measuring. Turn off the Mitutoyo gauge indicator by pressing the On/Off button.

#### **Attention!**

Do **not** use compressed air for cleaning.  
Use a brush or similar to remove dust and dirt in the parts of the device.

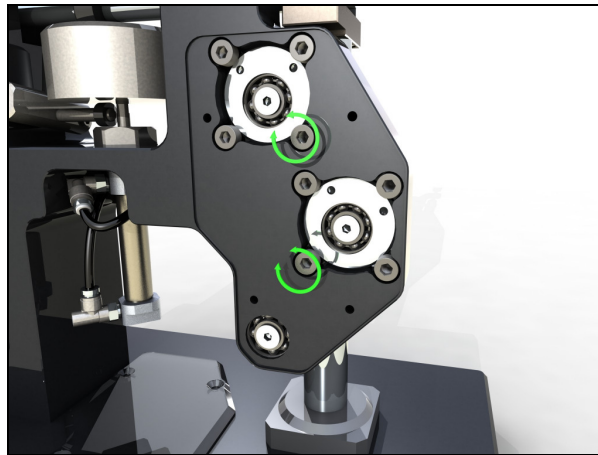
### 3 Instrument adjustment

#### 3.1 Mitutoyo gauge indicator

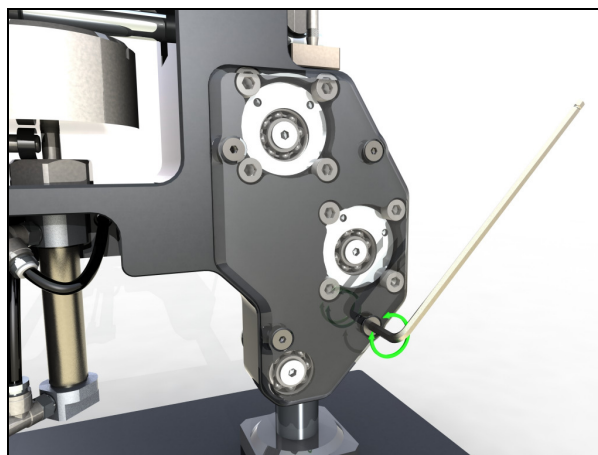
The thickness gauge meter is adjusted by using gauge blocks. The adjustment is done on five points. Four points on the edges with an angular distance of 90°, and one point in the centre. Two gauge block levels are used, 2 and 10 mm.

#### 3.2 Measuring plate alignment

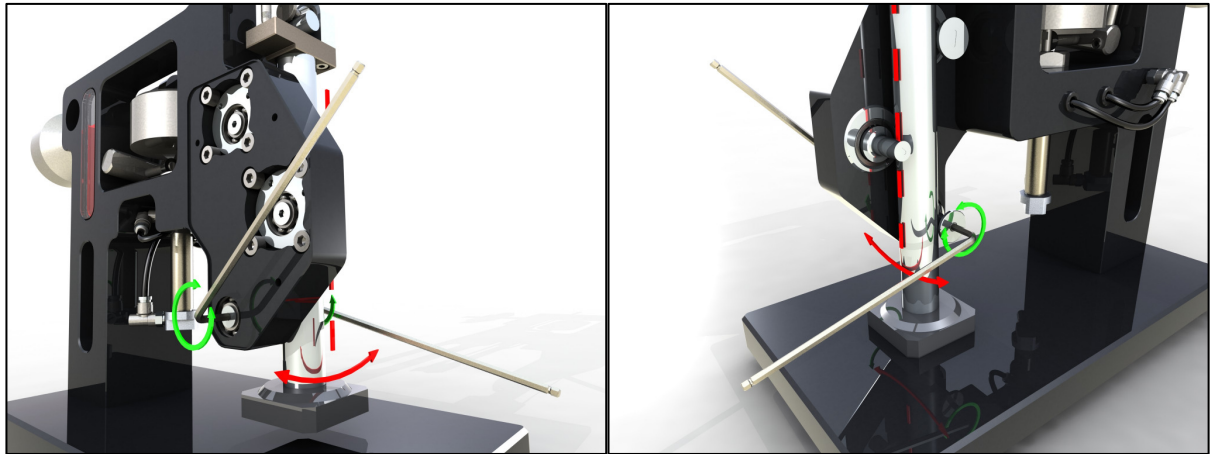
If the measuring plate needs to be aligned, it is done by means of the gauge blocks. Each five measuring points should show the same value. ( $\pm 0.01$  mm)



1. Release the transparent cover from the alignment bearings.



2. To adjust misalignment between front and rear of the measuring plate, loosen the 8 screws that hold the eccentric adjustable linear unit. Then turn the bearing housings until the edge of the measuring plate is parallel to the base plate. Fix the eccentric bearing seats.



3. To adjust misalignment between the sides of the measuring plate, tighten or loosen the lower alignment bearing with the use of two hex socket wrenches. The position is spring loaded and no additional fixation is necessary.



4. Verify that the measuring plate is correctly adjusted and repeat the adjustments with the gauge blocks if necessary.

### 3.3 Decent speed

The speed of the measuring plate will be checked with an automatic timekeeper or with manual time keeping. For adjustment, turn the adjusting screw on the bottom of the cylinder for faster or slower speed. For correct speed of the measuring plate descent, see method description.

### 3.4 Load

The load of the measuring plate can be adjusted with the help of a high resolution weight scale. Please note that the scale height needs to fit under the pressure foot.

1. Lock the measuring plate in the upper position with the measuring plate lifter.
2. Place the weight scale under the measuring plate.
3. Lower the measuring plate by releasing the measuring plate lifter.
4. Read off the weight on the scale and if an adjustment is needed, undo the locking nut from the counterweight.
5. Turn the counterweight towards or away from the main body for a higher or lower load of the measuring plate.
6. When the load is adjusted, lock the counterweight with the locking nut.

### 3.5 Function check

1. Press the On/Off- button on the Mitutoyo gauge.
2. Lock the measuring plate at the upper level with the measuring plate lifter.
3. Lower the measuring plate by releasing the measuring plate lifter.
4. Check visually that the axle goes steadily downwards.
5. Check visually that the measuring plate is planar to the base plate.

## 4 Common error sources

| Error indication                         | Action to take  |
|--|---|
| The Mitutoyo gauge indicator do not work | Check the battery.  |
| The axle descends irregularly            | Clean the axle and the rolls by using a brush or similar. |

## 5 Product Warranty

### **The DT-25 Soft Material Measurement Gauge is warranted for a period of 1 Year from Date of Purchase.**

Manufacturer warrants that the instrument shall be free of defects in material and workmanship for a period of one (1) year from date of shipment by the Manufacturer.

This warranty will not apply to any product that shall have been subjected to misuse, neglect, accident or damage by circumstances beyond Manufacturers' control. It will further not apply to improper operation, maintenance or storage, or to other than normal use or service or products which shall have been altered or improperly repaired.

During the warranty period, products which have manufacturing defects will be repaired or replaced at the discretion of the manufacturer, who reserves the right to include a local service in the process.

When receiving a claim, manufacturer will as soon as possible respond with a Warranty Claim ID-number and instructions on how to proceed. Products shall **under no circumstances** be returned to manufacturer prior to receiving a Warranty Claim ID.

#### **How to File a Warranty Claim**

- 1) Describe the reason for the claim.
- 2) If possible, attach a photo of the failure/damage.
- 3) Attach a copy of the purchasing receipt/invoice

#### **Send your claim, by post or Email to:**

Postal address:

IM Teknik Development AB  
Reningsverksgatan 6  
421 47 Västra Frölunda  
Sweden

Email

info@imteknik.se

- 4) Wait for manufacturers reply with Warranty Claim ID and handling instructions.

