



SYLVAC CALIBRATION STANDARD

Hi_Gage ONE 400 and 600 mm

ID Nr :	SYL 810
Date :	07.04.2014 - E
By :	CMO
Valid. by :	DSC

1. REFERENCE CONDITIONS

1.1. Measurement standards :

- A height gauge type Hi-Cal or a lever indicator.
- A precision granite surface plate.
- A height step gauge blocks (universal height master).

1.2. Calibration ambient conditions :

- The reference temperature is 20°C.
- The maximum variation of the room temperature (Δ max) is 2°C over a duration of 6 hours.

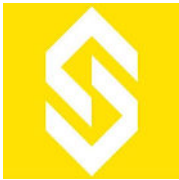
2. FUNCTIONAL LAYOUT



3. CALIBRATION SPECIFICATIONS

3.1. Preparation :

- Basic inspection (display of the value, cursor sliding, probe condition and clamping). If out of operation, it may be repaired or recycled.
- External cleaning with a soft cloth. Solvents to be used: Weak detergent, isopropyl alcohol (except on the window), light benzene.
- Keep the instrument and master gauges under calibration conditions for at least 6 hours prior to the measurements.



ID Nr :	SYL 810
Date :	07.04.2014 - E
By :	CMO
Valid. by :	DSC

3.2. Visual inspection :

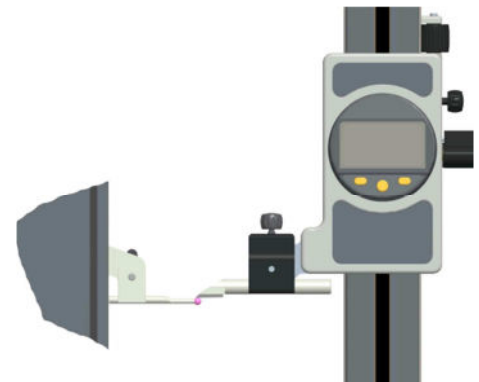
- Readability of the identification number and/or the serial number.
- Visibility of the display and LCD segments.

3.3. Functional checking :

- Check the display button functions (reset to zero, mm/in and ref.).
- Check the stability of the display. Maximum deviation of 1 digit over 10 seconds.
- Check the data output by connecting the instrument to a PC or a Sylvac display.
- Check that the cursor locks when the displacement knob is released.
- Check the operation of the fine adjustment knob.
- Check cursor locking using the locking screw. The display must not vary by more than 0.01mm.

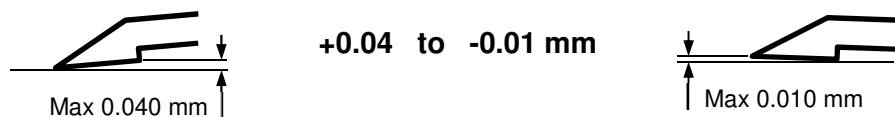
3.4. Checking of the play and parallelism :

- Minimum cursor play and smooth sliding without stiff points..
- The measuring surface of the scribing probe can be lightly inclined forward.
Measure the parallelism with a height gauge type Hi-Cal (or with a lever indicator).



Maximum permissible error widthwise : **0.01 mm**

Maximum permissible error sideways :



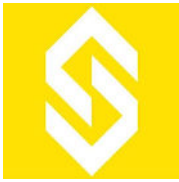
3.5. Measurement error and repeatability

3.5.1. Measurement error check :

- Set the display to zero on the surface plate (move the contact down gently).
- Measure the height step gauge blocks at different heights, distributed over the whole travel (as in table 3.5.3), and record the values (using the Sycopro calibration software).
- Tolerances as in table 3.5.4.

3.5.2. Repeatability :

- Make 10 successive measurements on a gauge block, in the same conditions as for checking the measurement error.
- Calculate the max. deviation (delta).
- Tolerances as in table 3.5.4.

**SYLVAC CALIBRATION STANDARD****Hi_Gage ONE 400 and 600 mm**

ID Nr :	SYL 810
Date :	07.04.2014 - E
By :	CMO
Valid. by :	DSC

3.5.3. Table of heights to be checked

TYPE	Positions to be checked
400 mm	0 – 30 – 70 – 110 – 150 – 190 – 230 – 270 – 310 – 350 – 390 – 430 mm.
600 mm	0 – 30 – 70 – 110 – 150 – 190 – 230 – 270 – 310 – 350 – 390 – 430 – 470 510 – 550 – 590 – 610 mm.

3.5.4. Table of tolerances

TYPE	Maximum Permissible Error	Repeatability
400 mm	40 µm	20 µm
600 mm	60 µm	20 µm

4. RESULTS AND DECISION

- Print a calibration certificate (using the Sycopro calibration software).
- If the measurement results are not conform, the instrument must be either repaired and calibrated again, or downgraded or recycled.