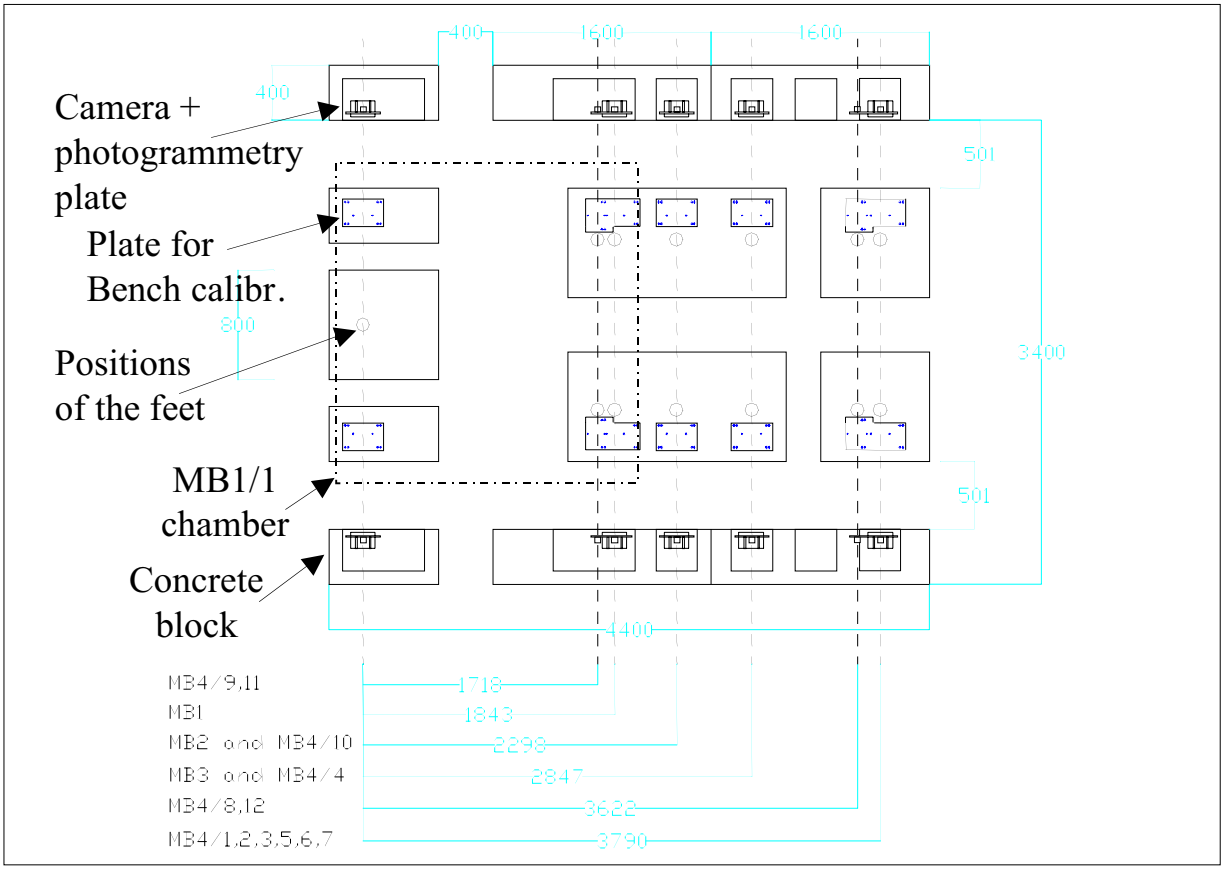
Chamber calibration bench layout



Chamber calibration bench construction

Steps	When is ready
• Tracing the layout on the floor (survey-group)	**done**
• Construction of the concrete block setup	**done**
• Production of the metal plates, camera box bodies, LED plugs.	**in 10 days**
• Production of the electronic part + software.	**in 2 week**
• Gluing of optical fibers, camera sensors, LEDs	**in 2 weeks**
• Painting of the blocks.	**this week**
• Tracing the the layout of the base plates on the concrete blocks (survey group)	**next week**
• Installation of the base plates	**in 2 weeks**
• Adjustment of the base plates of the base plates (survey group)	**in 3 weeks**
• Measurement of the critical dimensions in the metrology lab	**in 3 weeks**
• Full installation: mechanics+electronics	**in 4 weeks**
• When everything is operational: calibration of the bench with Laser Tracker Distance-meter (LTD) (survey group)	**in 6 weeks**
• Photogrammetry study with a real chamber.	

Mechanics: more details

Production of the metal plates,

camera box bodies, LED plugs:

Camera boxes	20 pieces	ready
Base plates	22 pieces	ready
Etalon plates	2 pieces	ready
Support triangle	20 pieces	ready
Fixation plate	10 pieces	ready
Camera+photogrammetry plate	10 pieces	ready
LED plugs	120 pieces	under fabrication

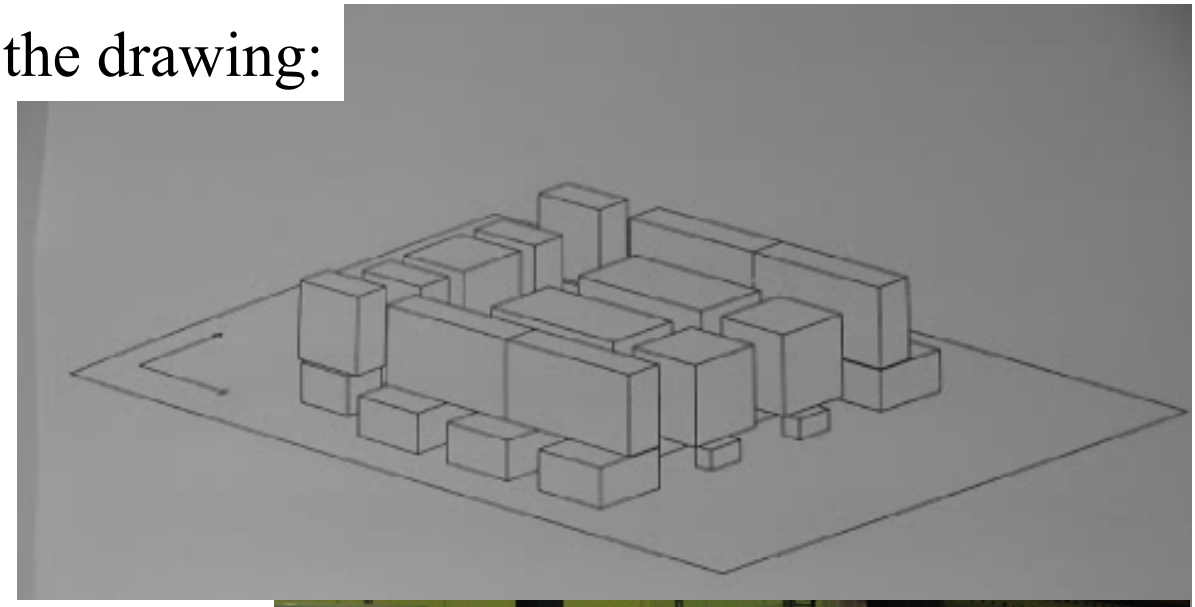
Installation of the blocks

The calibration area:

During the installation of the concrete Blocks:

The blocks

On the drawing:



In the ISR:

Plates, camera box bodies

Feet, lifting device

The alignment needs were discussed with CIEMAT (C. Burgos, M. Cerrada) who volunteered (?) to do the design and the production.

Fast positioning of the chamber on the bench is ensured by 3 touching points made according to the "point-line-surface" principle. The touching points are aligned with the center of the alignment passage according to Hans' suggestions.

(Design: next slide)

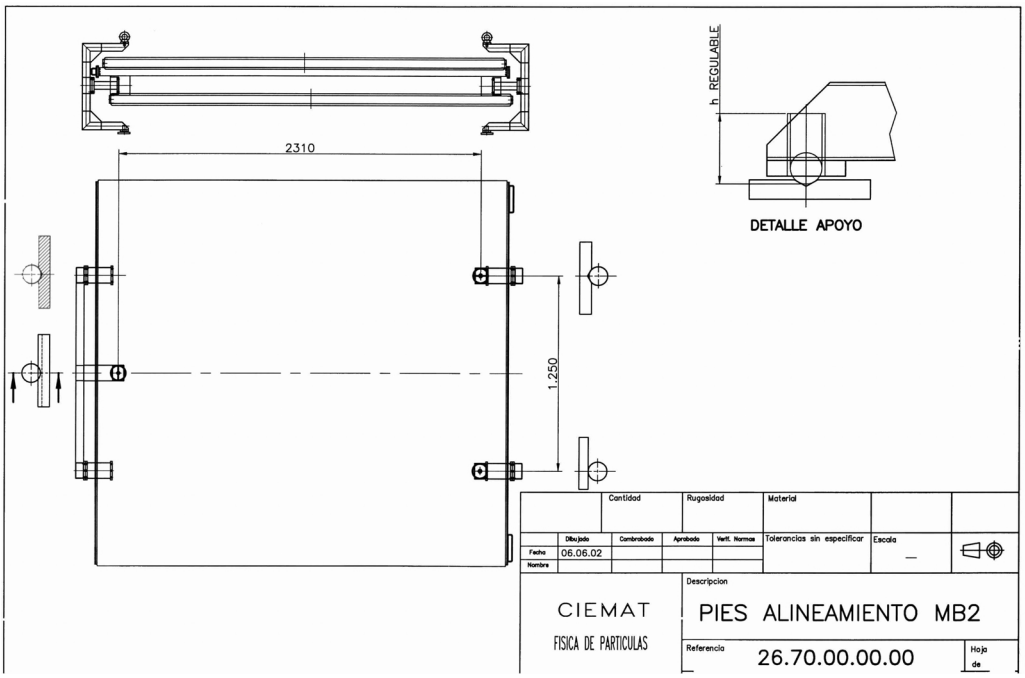
We (alignment group) like the design. Thanks!

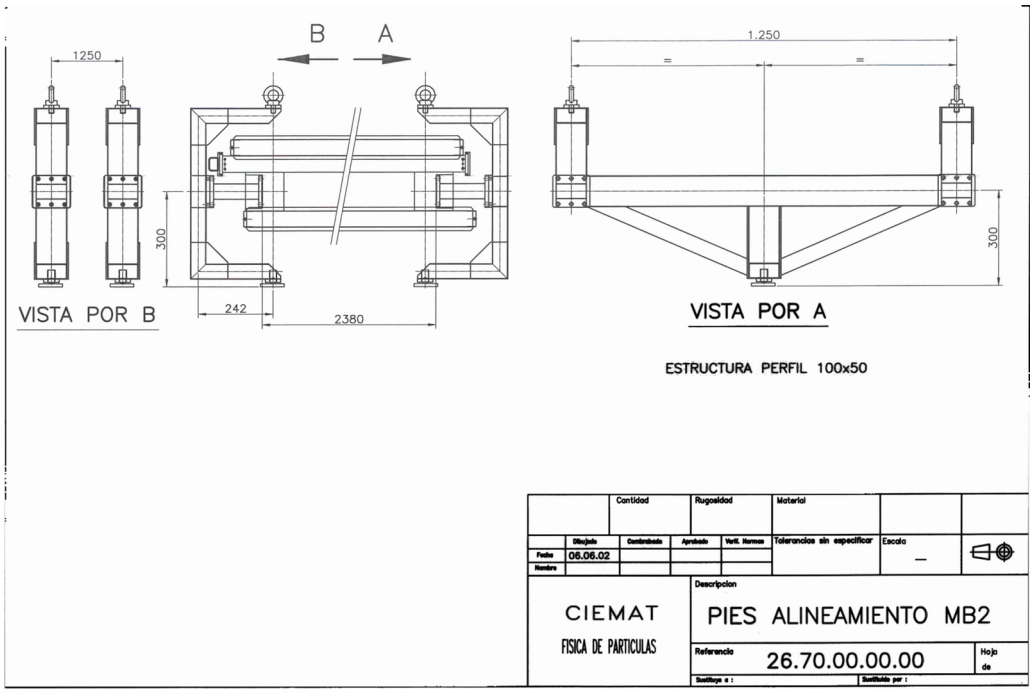
One consequence: the chambers must be stored in a way that the feet could be screwed to the chambers (even to the bottom one).

Two questions: 1) Could we have two sets of feet? It would be good to gain time (one in use, one for the next chamber).
2) How much is the weight?

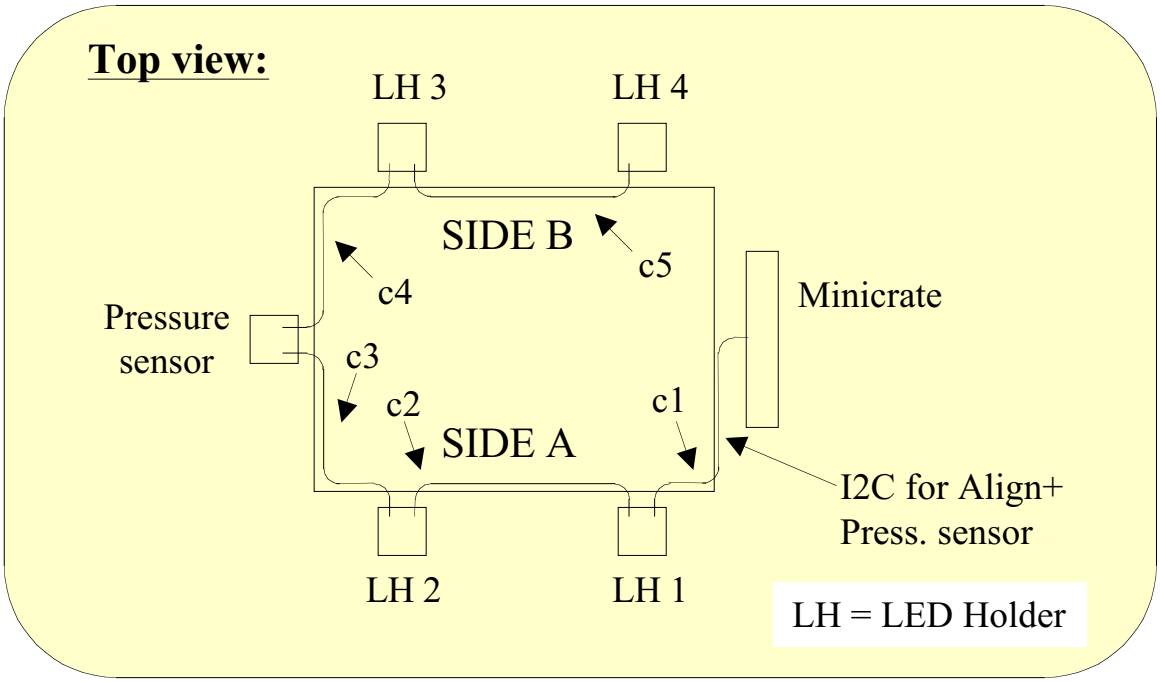
Some details of the touching point area have still to be discussed.

Leg, lifting device – CIEMAT design

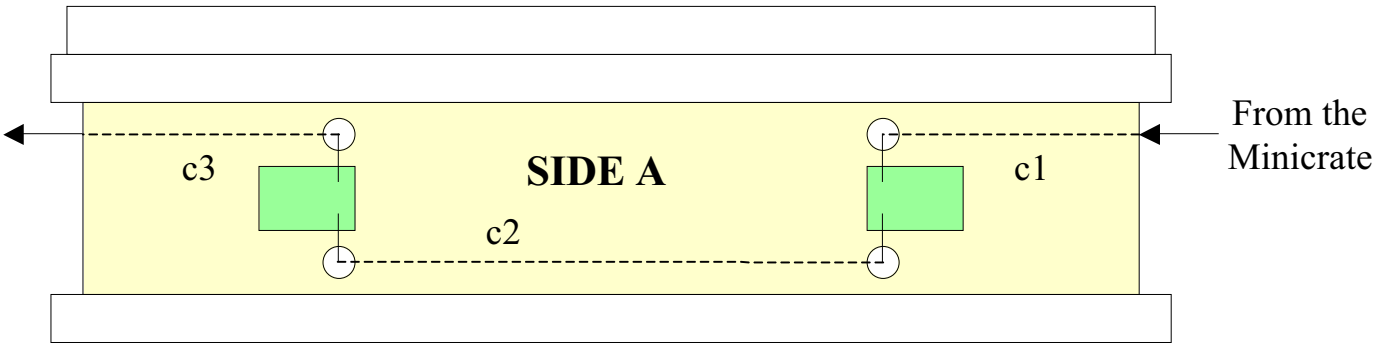


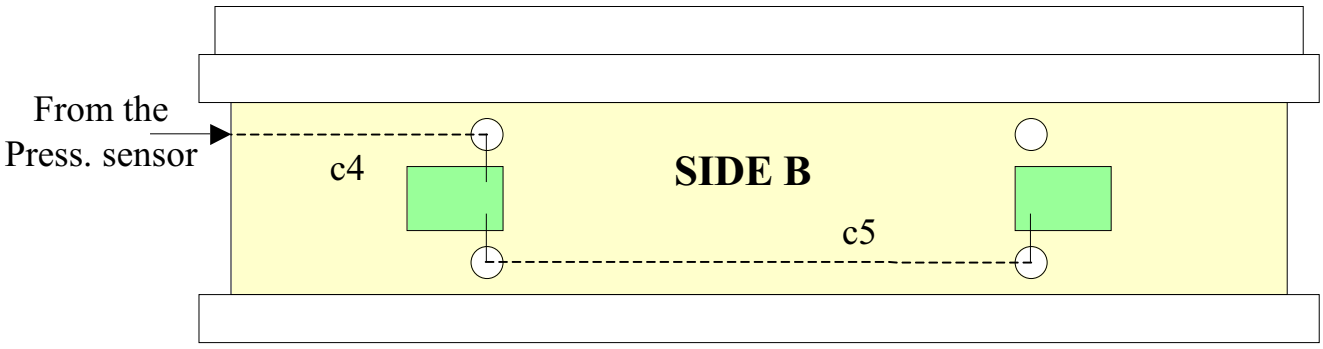


Chamber cabling scheme



Side view:





Chamber cabling scheme - questions

1) Starting direction:

According to the top view drawing c1 cable goes to the left from the minicrate. Is it OK?
Can this rule be universal (for all the chambers)?

2) Top-bottom:

According to the drawing c2 and c5 are at the bottom, c1, c3, c4 are at the top. Is it ok? (The alternative is the opposite.)

3) Length of cables:

For cables c2 and c5 it is 1650 mm.
We need input to define the lengths of the others (location of the minicrate for each type of chamber, the I2C connector on the minicrate, etc).