

Nagoya 7 Dec. 2006

# Status of the activities in Padova



Padova  
University

**A. Longhin**  
for the Padova group

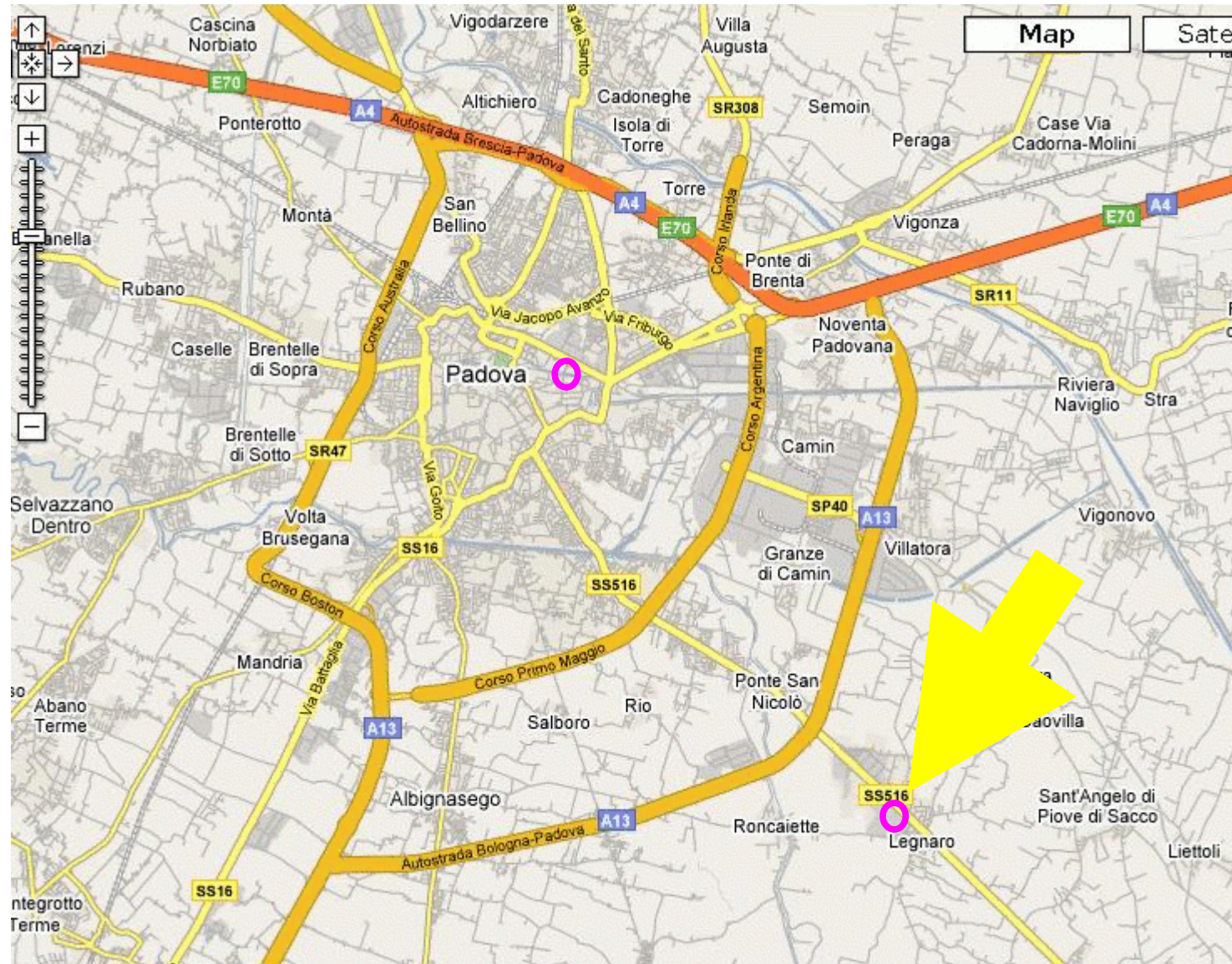
**INFN**  
Istituto Nazionale  
di Fisica Nucleare

# Status of activities

- The Scanning station is now basically **ready** and the microscope has been **installed**.
- The site is the **LNL** (**Legnaro** National Laboratories, just outside of Padova) inside the “Sala delle Alte Energie” building.



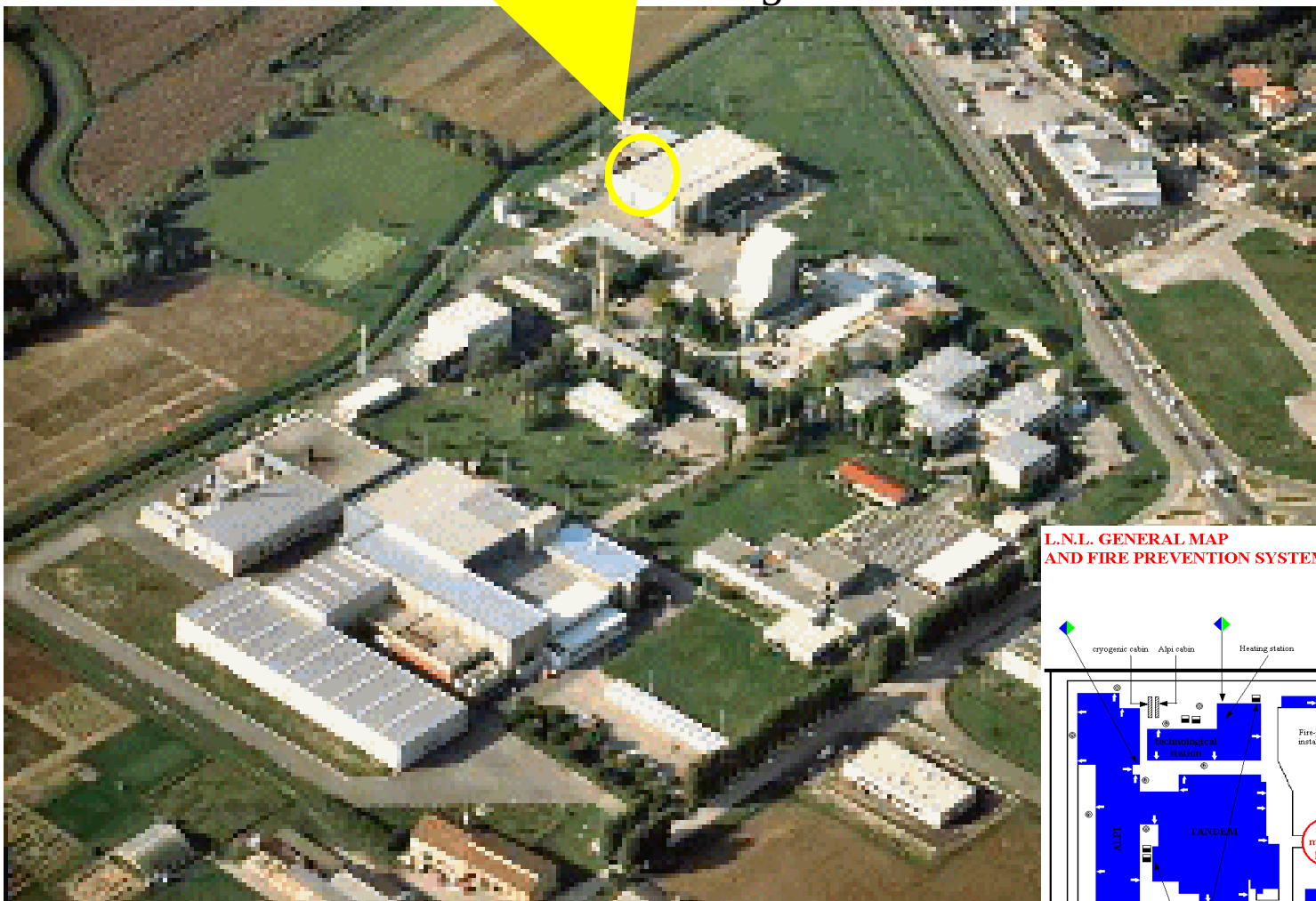
# Location of the scanning station



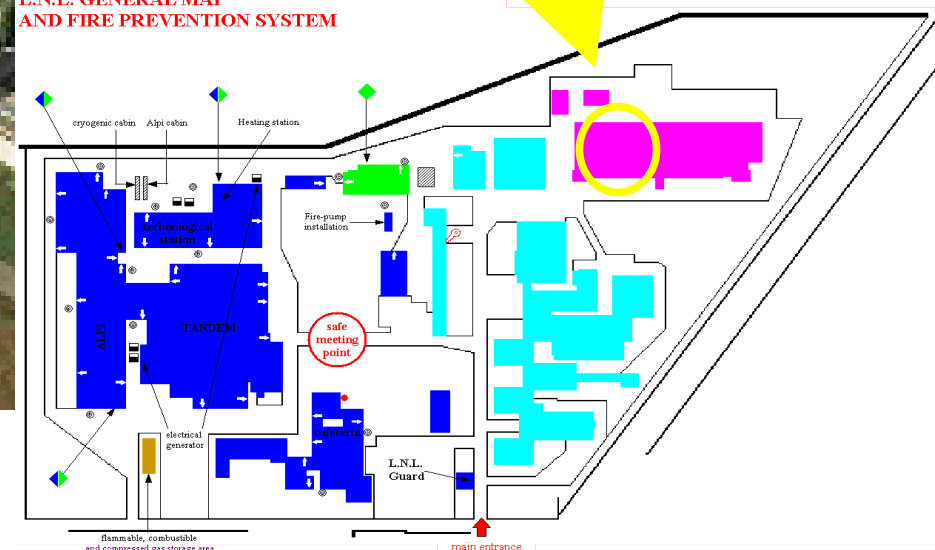
~ 8 Km from Ph. Dep.

# The scanning station @ LNL

“sala delle alte energie”

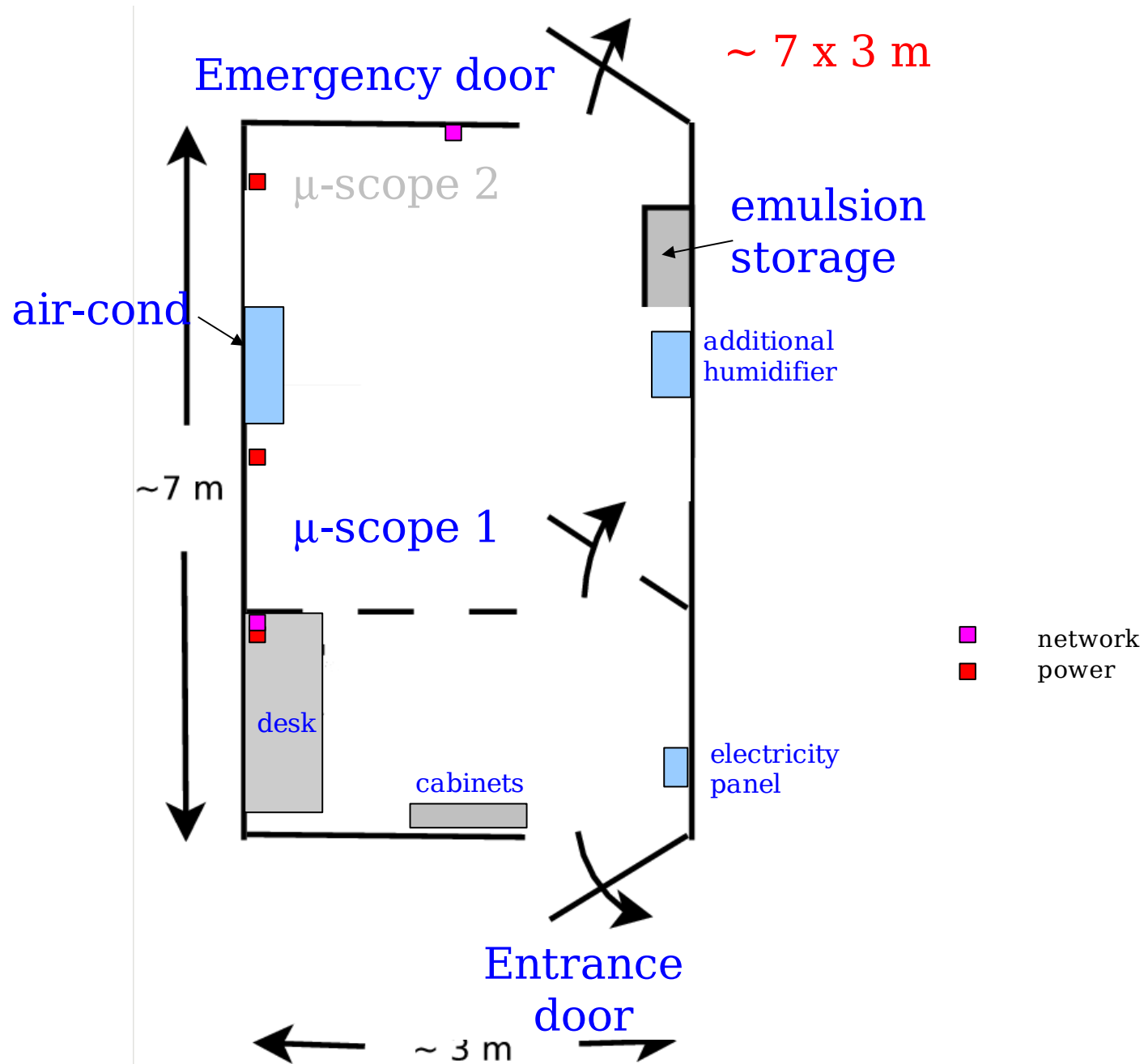


L.N.L. GENERAL MAP  
AND FIRE PREVENTION SYSTEM

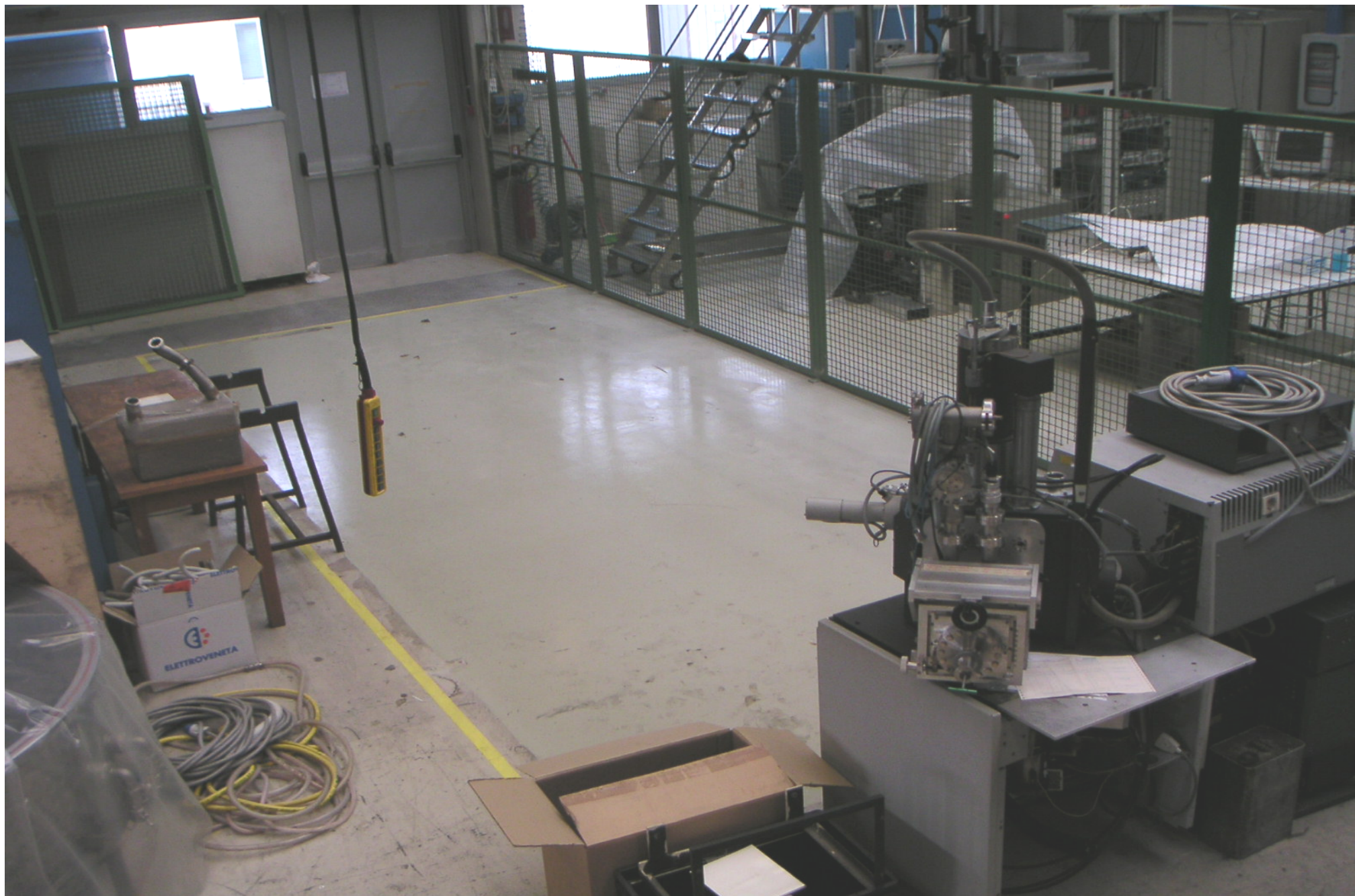




# Schematic view of the Lab



# The situation in spring





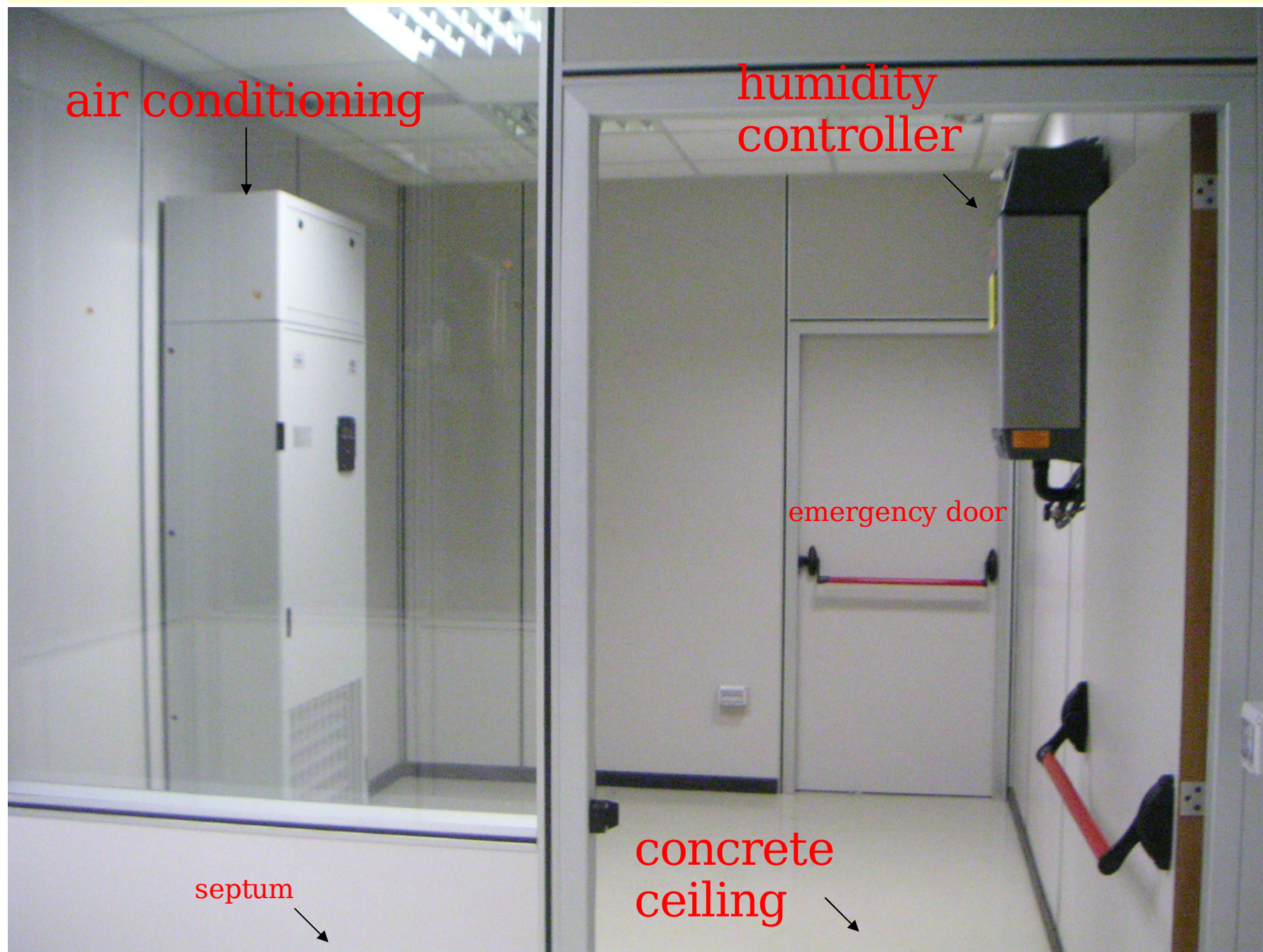
# The Lab now

The same company built both the box and the conditioning system (Emerson, Liebert HIROSS )





# Interior





# Conditioning

Company: Emerson, Liebert HIROSS  
Mod.: HIMOD S05KA "CONSTANT"

Gas: R407c

Nominal tolerances:

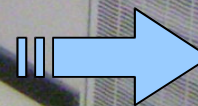
$T < 1\%$  in  $[18,30]$  C  
 $R.H. < 5\%$  in  $[45,60]\%$

Air flow rate  $1160 \text{ m}^3/\text{h}$  (from top)  
(room volume is  $\sim 60 \text{ m}^3$ )

Allows remote data-logging

Cooling capacity 5.5 kW

Controls a separate humidifier

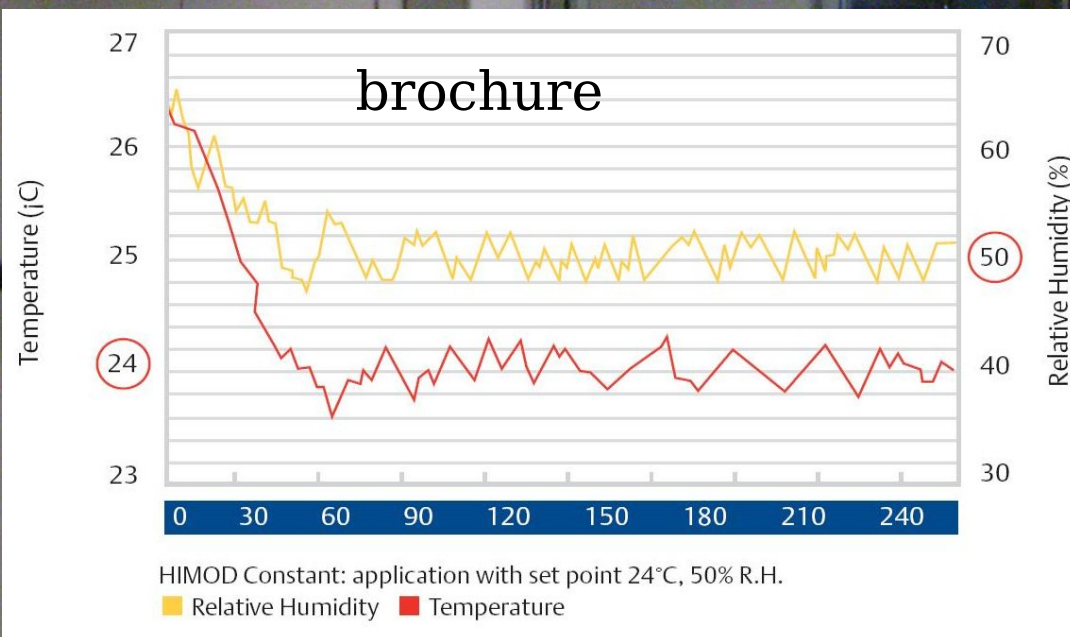




# Conditioning II

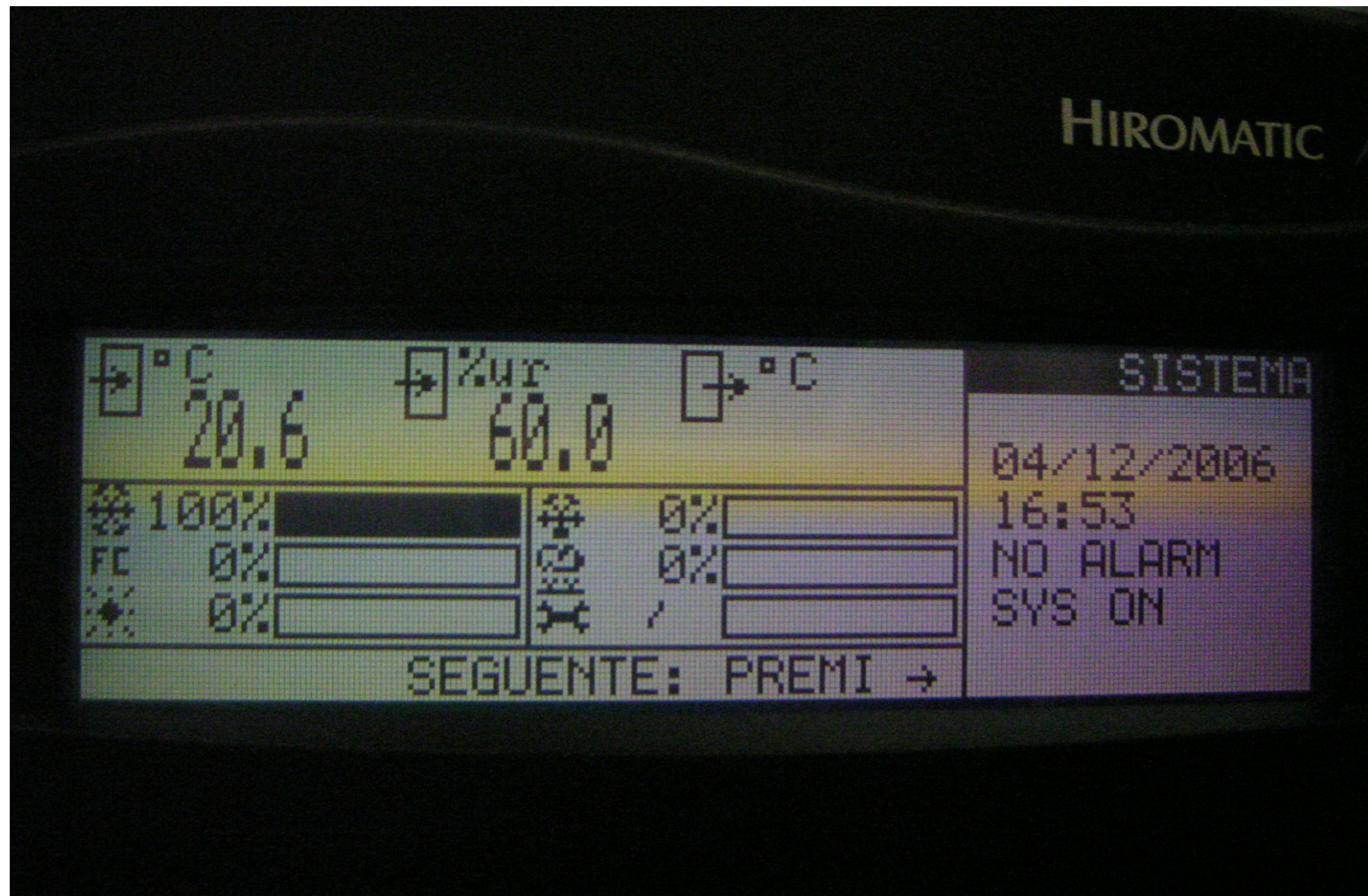
Resistor humidifier:  
Carel HeaterSteam  
mod. UR10HL

steam flow: 10 kg/h





# Conditioning III



- Conditioning system is operational since some days
- Long term monitoring/tests to be completed



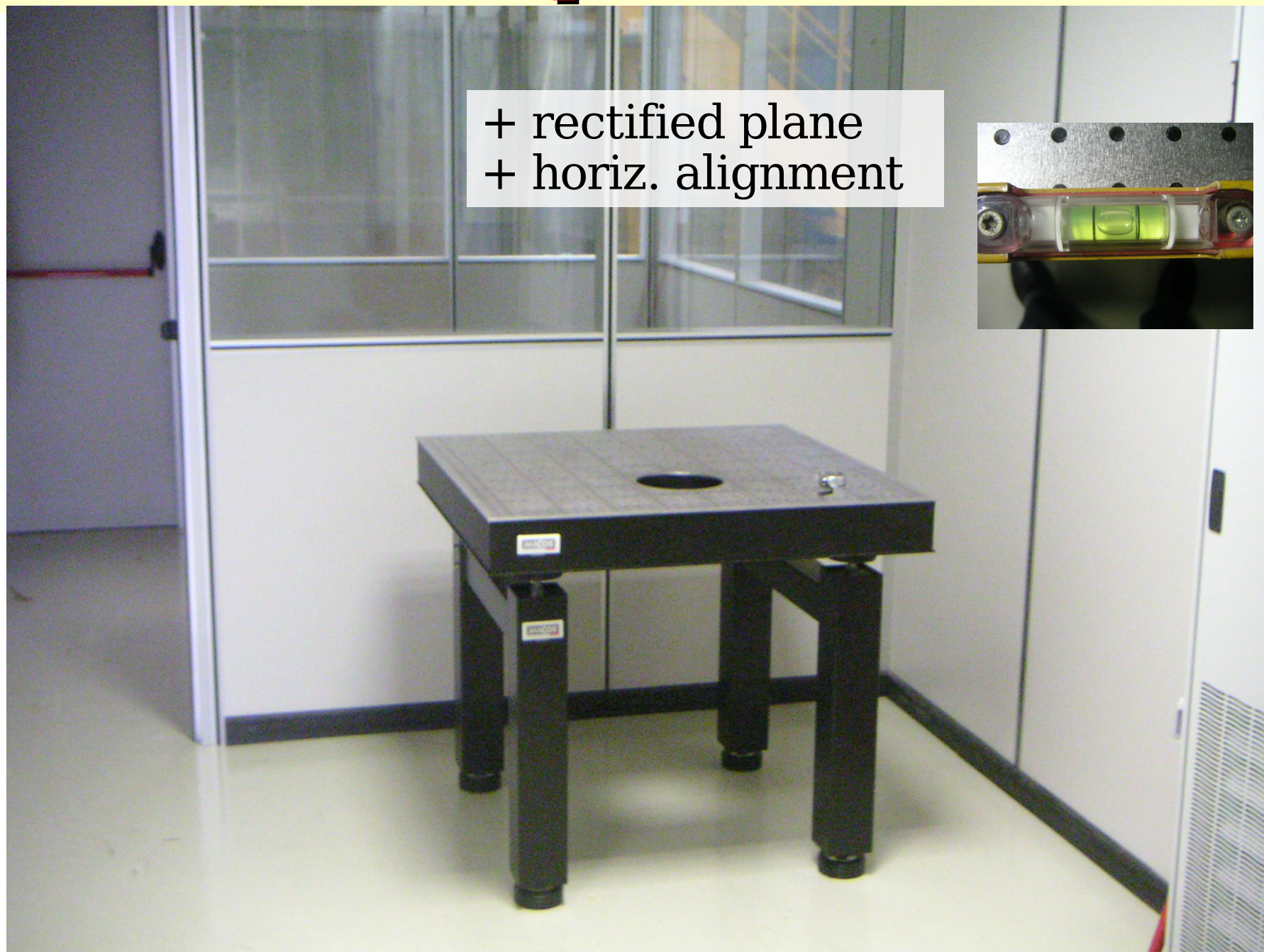
# The Microscope installation (I)

- + table legs
- + horiz. alignment





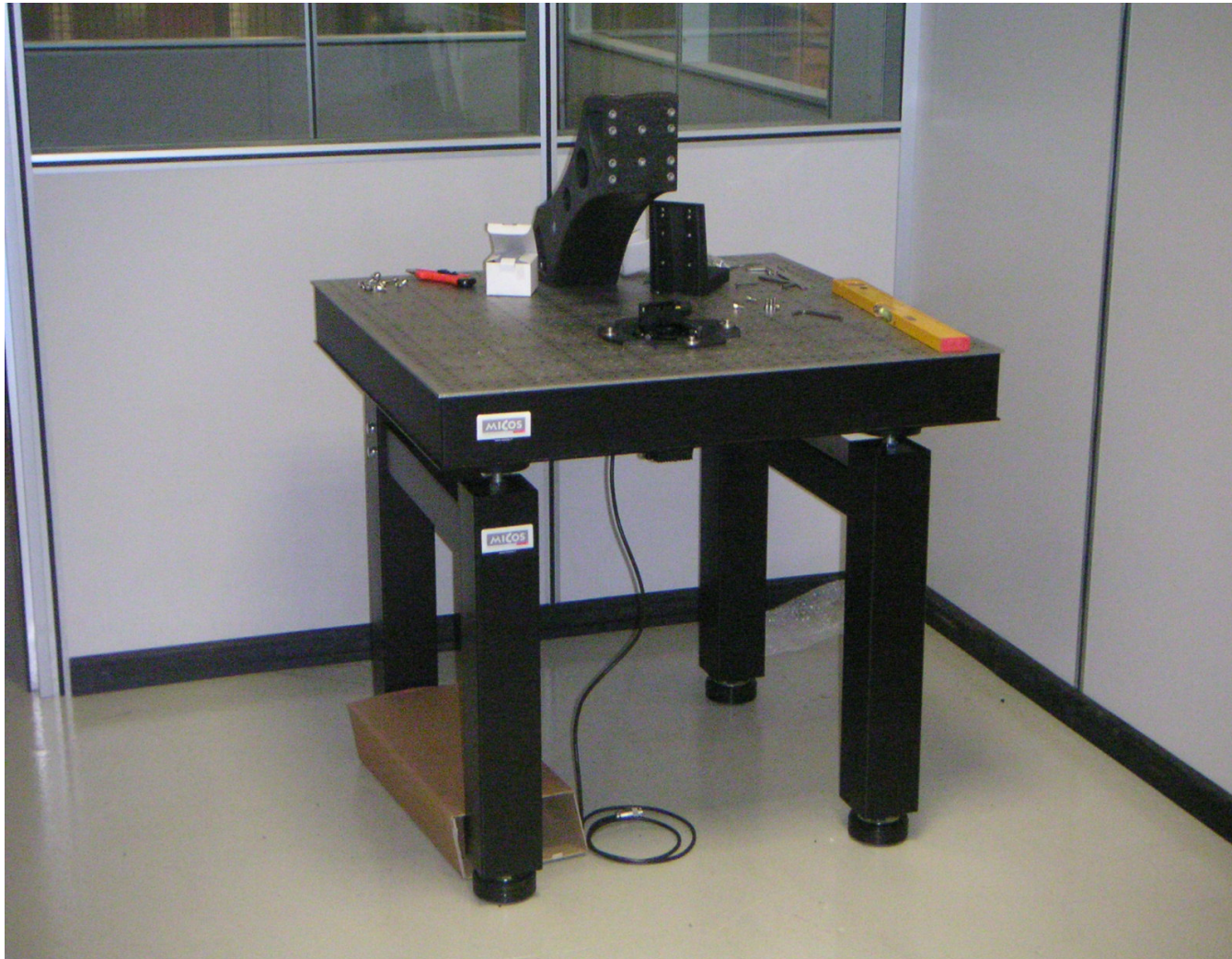
# The Microscope installation (II)





# The Microscope installation (III)

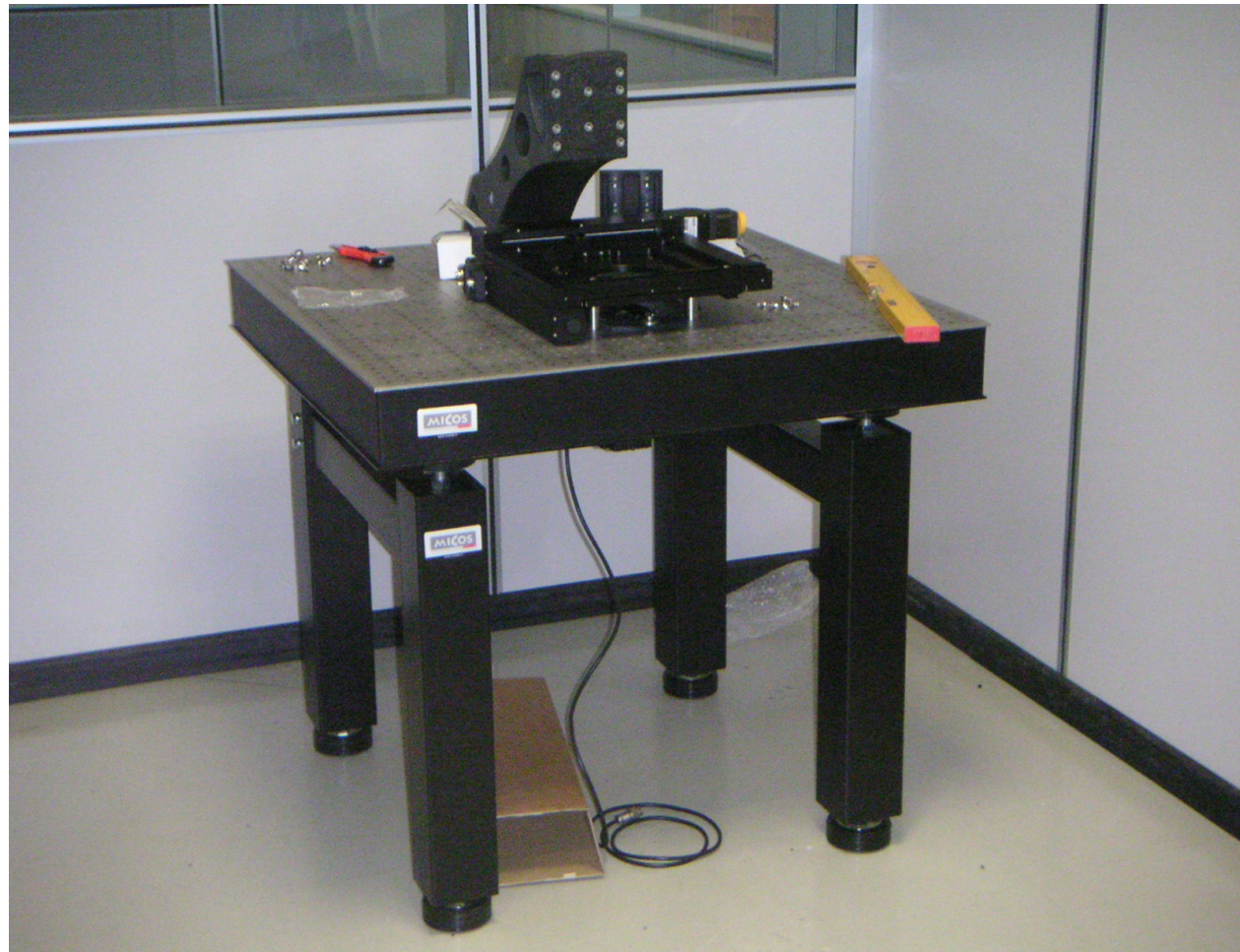
- + granitic arm
- + condenser base





# The Microscope installation (IV)

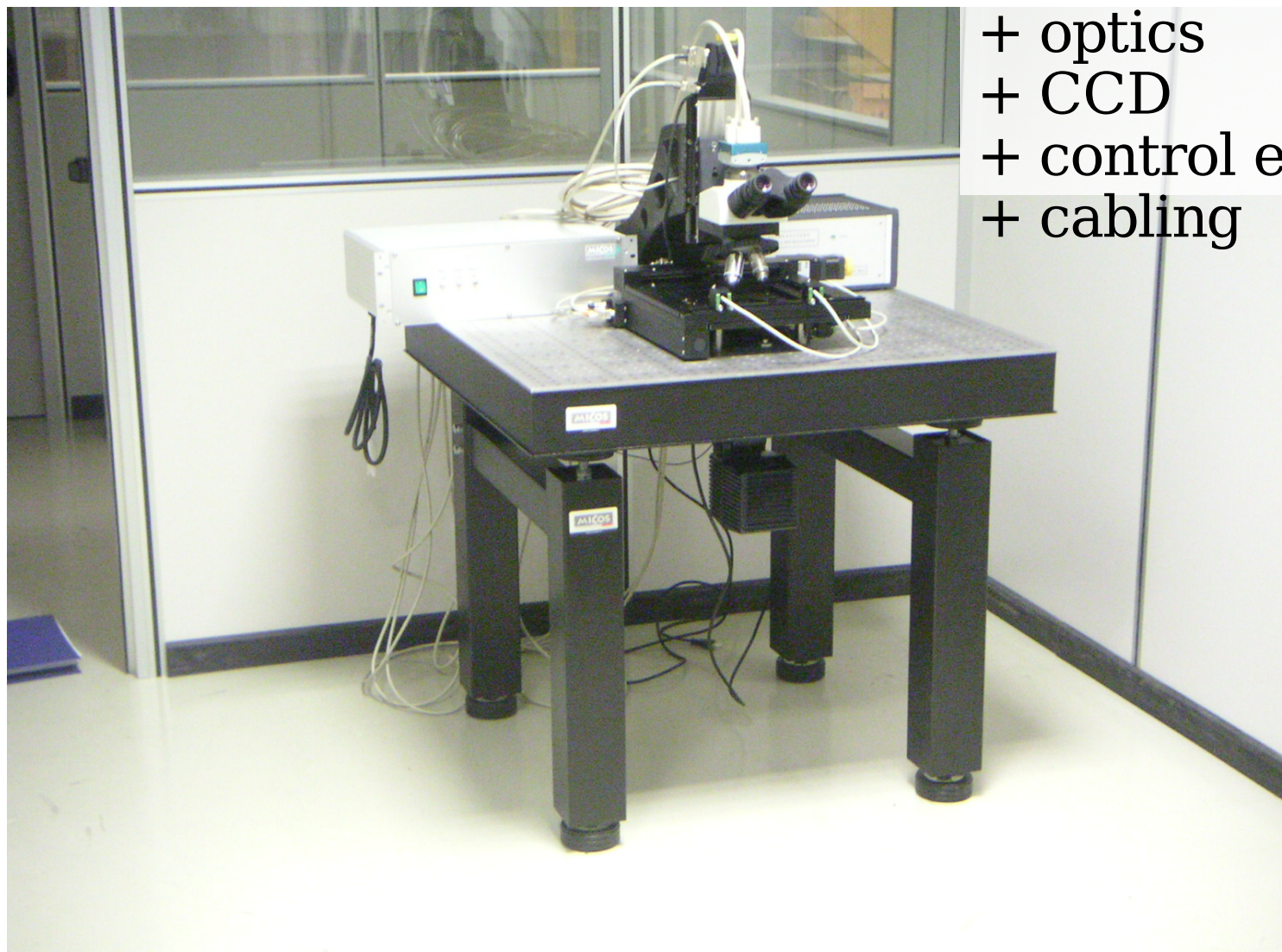
+ horizontal motorized stage





# The Microscope installation (V)

- + condenser
- + vertical stage
- + optics
- + CCD
- + control electronics
- + cabling





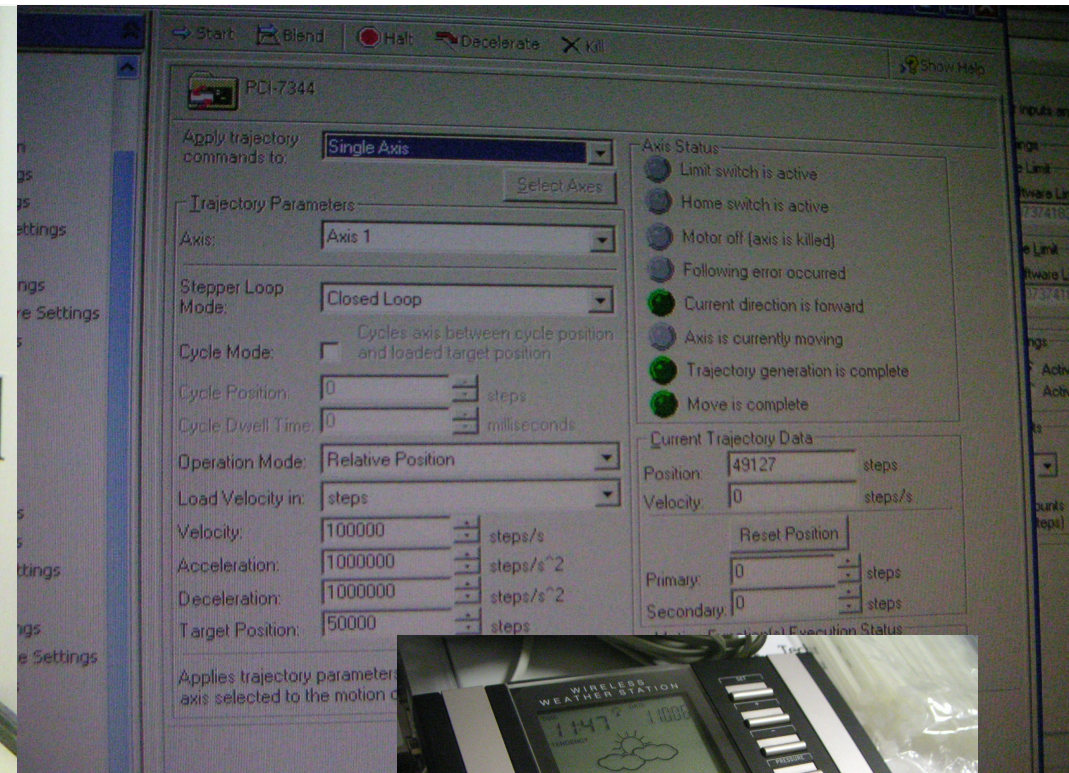
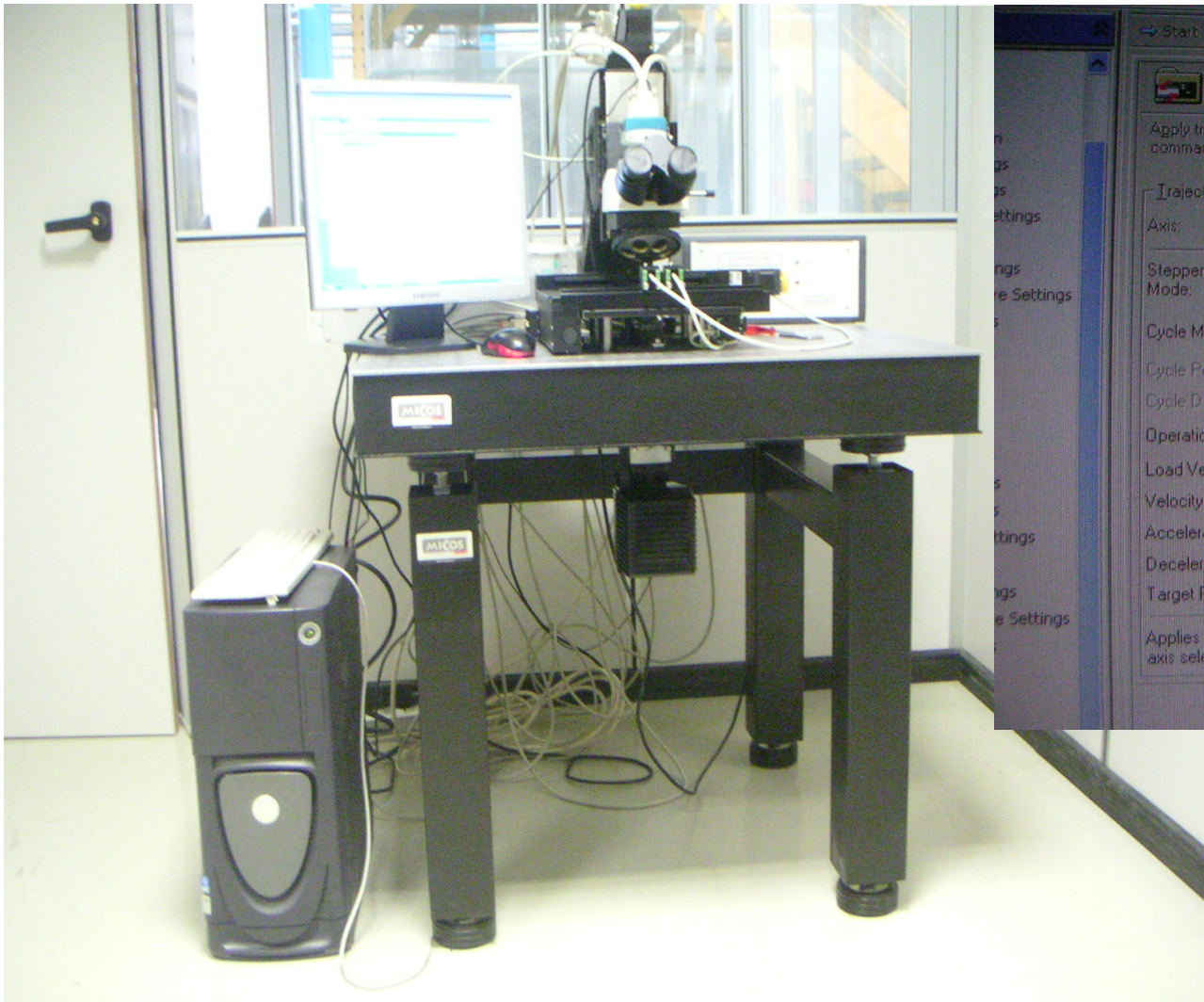
# The Microscope installation (VI)





# The Microscope installation (VII)

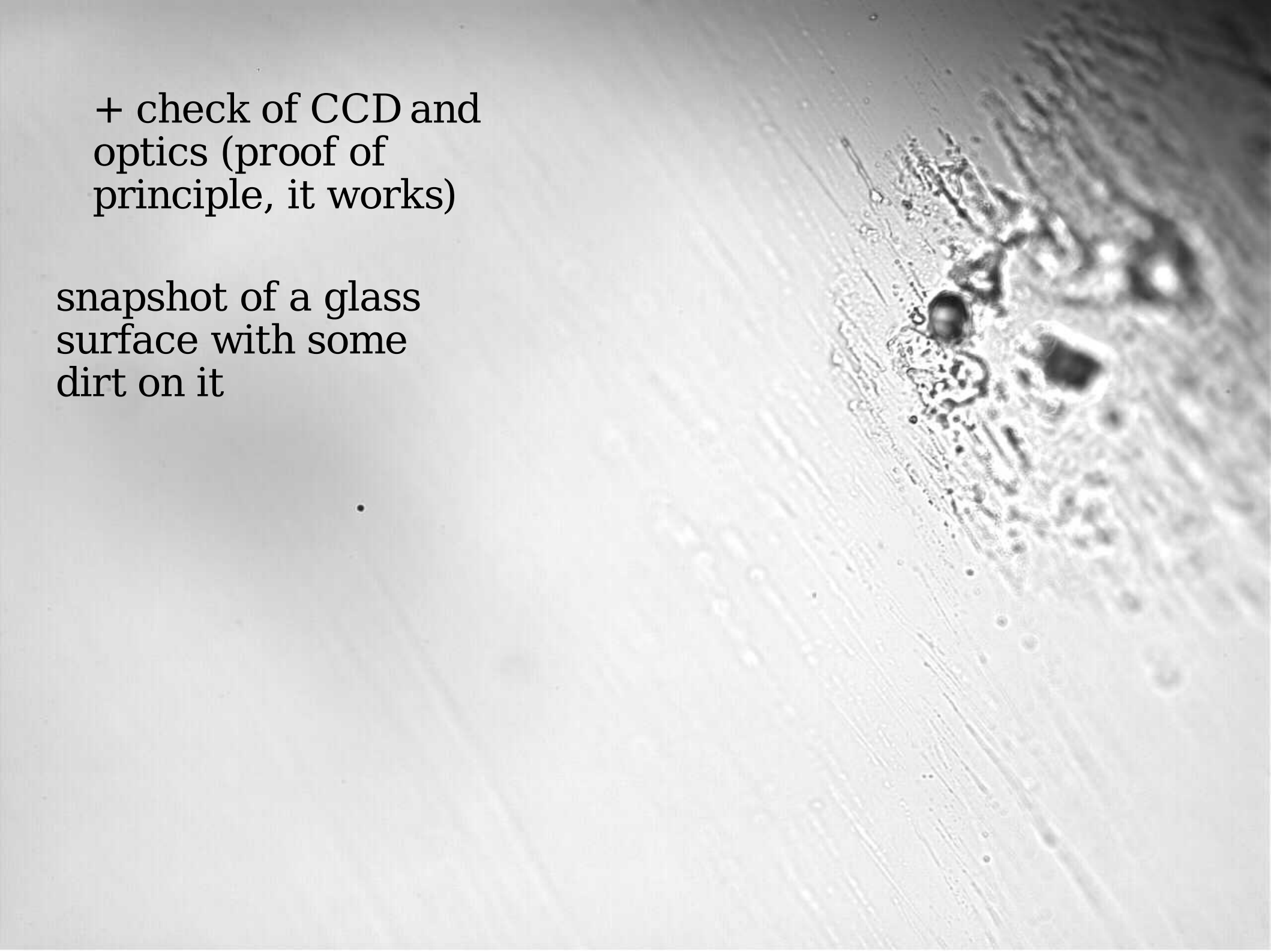
- + scanning PC with software
- + check of motors movements (OK)
- + T, R.H. monitoring





+ check of CCD and  
optics (proof of  
principle, it works)

snapshot of a glass  
surface with some  
dirt on it





# The Microscope installation (VII)

+ microscope-condenser basic optical alignment

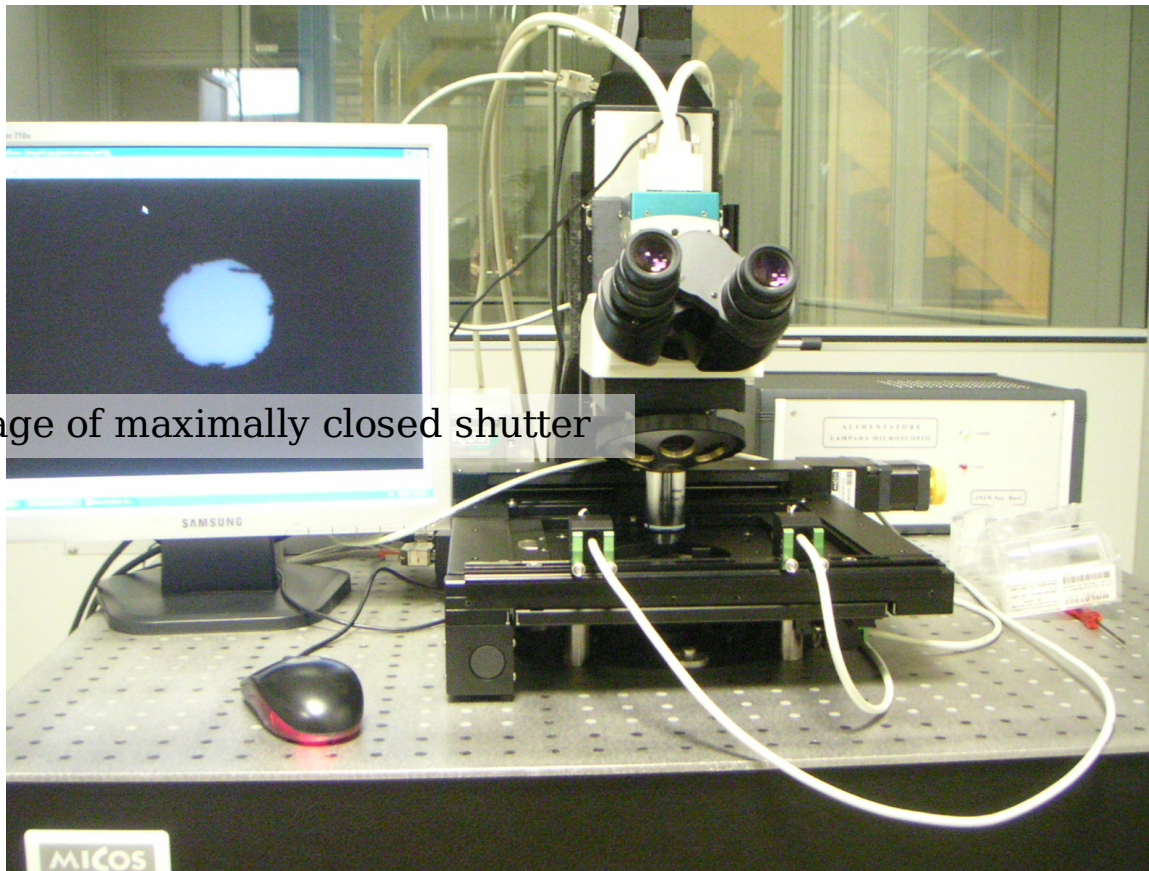
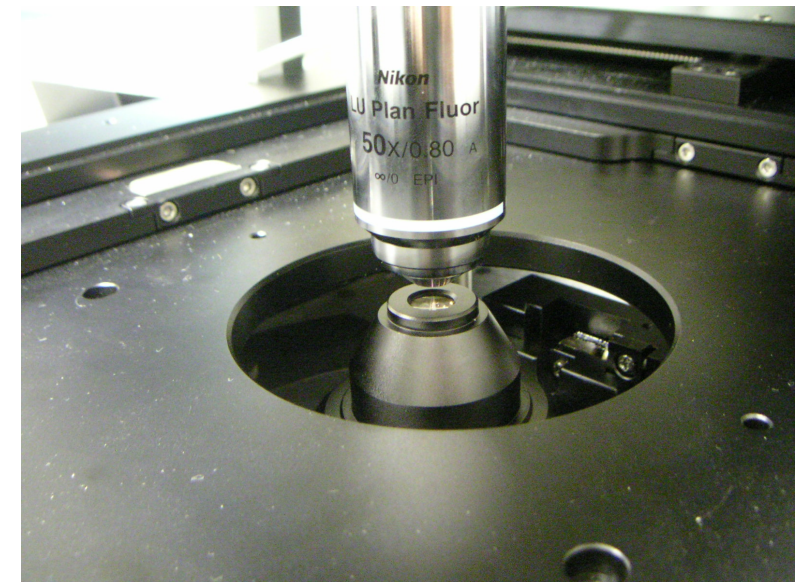


image of maximally closed shutter



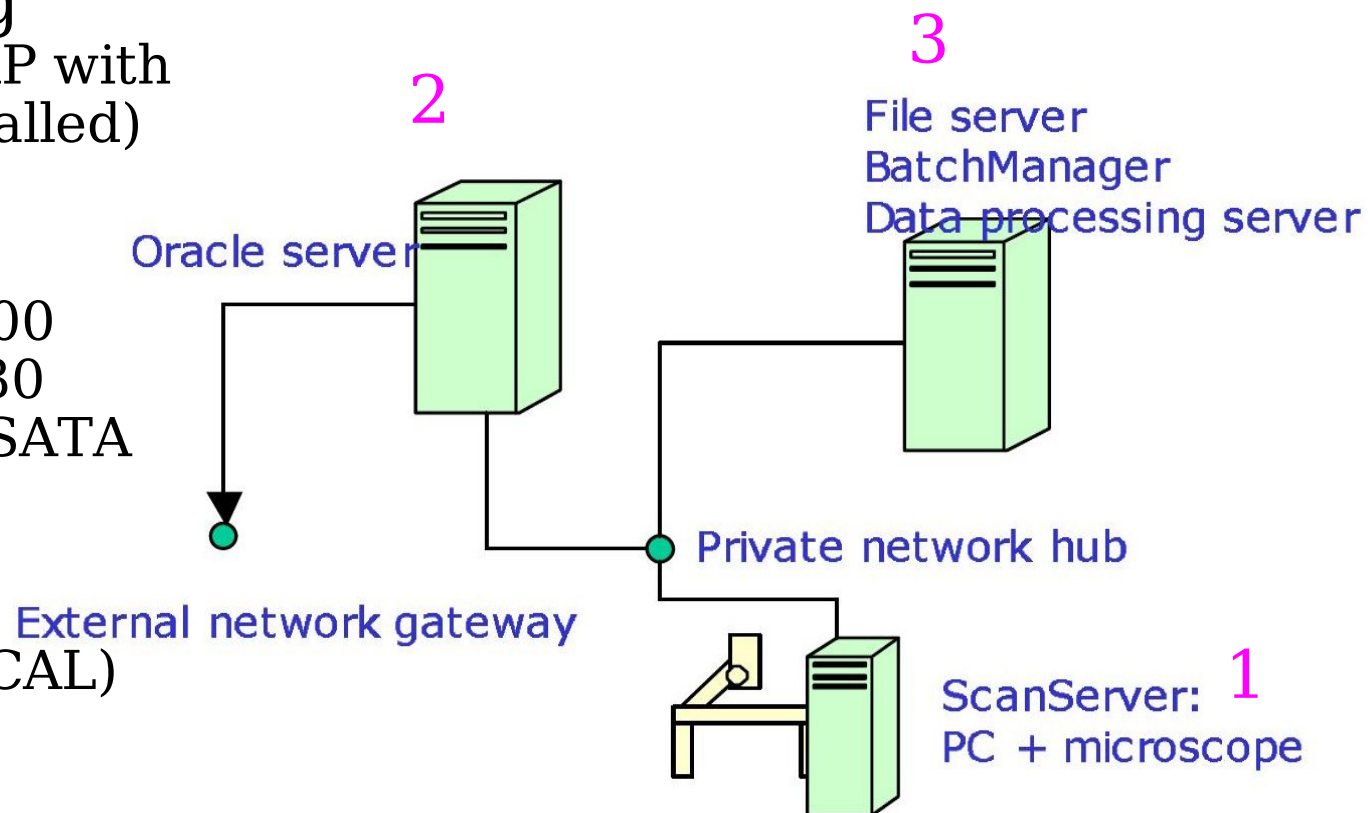


# Computing infrastructure

- **1** is up and working  
(DELL PowerEdge, WinXP with  
all the necessary sw installed)

- **2** and **3** :  
DELL PowerEdge 2900  
CPU: 2 x Xeon DC5130  
Storage: 4 x 500 GB SATA  
RAM: 4 GB  
tower  
RAID controller  
Win2003 Server (10 CAL)  
have been delivered.

- public IP for central  
database access has been  
allocated and  
communicated





# Conclusions and plans

- The microscope station is basically complete except for
  - the emulsion glass plane (being delivered)
  - the vacuum system (working on it)
  - the delivery/set-up of the complete computing infrastructure
  - few minor things (furniture, UPS, eth cable)
- Next steps:
  - fine alignment and optics commissioning. NIKON technician coming before Xmas.
  - Final setup/tests of the air conditioning system (just some short trials up to now)
  - get some test emulsion and expertise with SySal and data taking/processing

*Thanks for the **training**  
& **suggestions** offered  
up to now by other  
scanning groups*

More pictures/infos at  
<http://opera.pd.infn.it/scanning/ScanningPD.html>  
(especially see the “NEWS” links)



# Outlook

- Updated information is available at this URL:

*<http://www.pd.infn.it/~longhin/tmp/ScanningPD.html>*



# Spares

# Air Delivery: Displacement

## Model

S05

## Performances<sup>(1)</sup>

Total cooling capacity	kW	5,5
Sensible cooling capacity	kW	4,8
SHR <small>sensible heat ratio</small>		0,87
EER <small>energy efficiency rating</small>		3,21
Number of compressors	n°	1
Number of fans	n°	1
Airflowrate	m <sup>3</sup> /h	1160
External Static Pressure ESP	Pa	0
Sound Pressure Level <sup>(3)</sup> downflow	dB(A)	48,3
Width	mm	750
Depth	mm	400
Net Weight	kg	170

S models and M25 are also available in "Constant Version" with Upflow Delivery