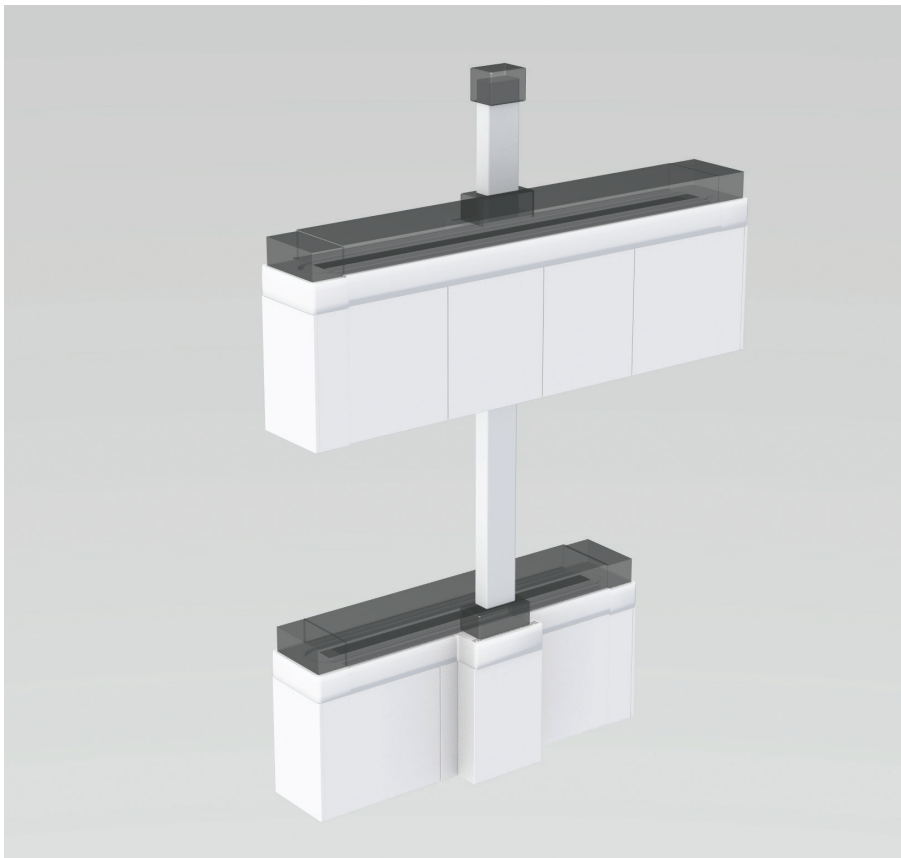


## Vertical Transportation Module (VTM) Technical Data Sheet

The Vertical Transportation Module connects two different Automation Systems located on different floors, or two tracks of the same Automation System located on different floors. A Lifting System allows the sample tube exchange between the two floors. In particular, VTM is composed of three sub-systems:

- VTM node on lower floor that routes carriers toward the upper floor;
- VTM node on upper floor that routes carriers toward the lower floor;
- VTM belt equipped with Porters that moves carriers from one floor to another.

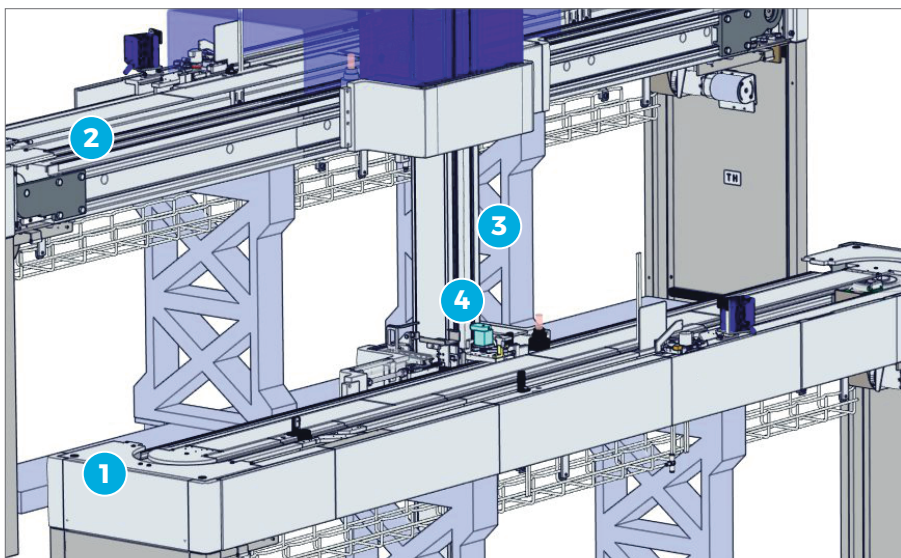


### Benefits

- > Transportation on different floors of sample tubes without generating sample resuspension
- > Automatic transportation of sample tubes among different lab levels
- > Maintenance and guarantee of sample tubes traceability among different lab levels

### Applications

- > Connection among automation systems installed on different lab levels in presence of space constraints
- > Automatic Connection of different specialties in different floors, e.g. Microbiology



- 1 Track on Lower Floor
- 2 Track on Upper Floor
- 3 Lifting Systems
- 4 Porters on Lifting System

## Main Features

Throughput	Up to 2400 tubes/h
Walk-away capacity	Always automatically loaded
Tube specifications	
Sample type	All (spun and unspun)
Cap type	All (Capped and Uncapped)
Dimensions (mm)	13x75, 13x100, 16x75, 16x100
Position along the automation	Depends on the configuration

The maximum throughput calculations are obtained in optimized and standardized conditions, as tested by Inpeco.

## Other Features

- > VTM consists of a Sampling Master, a Sampling Slave, Loading Units Master and Slave, Unloading Units Master and Slave, and a Lifting System to Porters
- > Unloading Units Master allows the passage of the Sample Carrier from Sampling Master to Lifting System
- > Lifting system allows the passage of the carriers from Sampling Master to Sampling Slave located on different floors by means of porters
- > Loading Units Master allows the passage of the Sample Carrier from Lifting System to Sampling Master
- > VTM moves empty and full carriers from one floor to another one

### Technical Specifications

	Level 0	Level 1
Dimensions (LxHxD) (mm)	600x N.A.x170	600x 1780x170
Main clearances (left x right x front) (mm)	700x 700x630	700x 700x630
Weight (Kg)	60	50
Compressed air (NL/min)	9.9	9.9
Power inlet point	230 Vac	230 Vac

### Ordinary Maintenance

Operator <sup>1</sup>	/
Service <sup>2</sup>	Every 90-365 days, according to operations

<sup>1</sup> According to Operation Manual. <sup>2</sup>The periodicity depends also on the routine tubes/day. For more details refer to Service Manual.

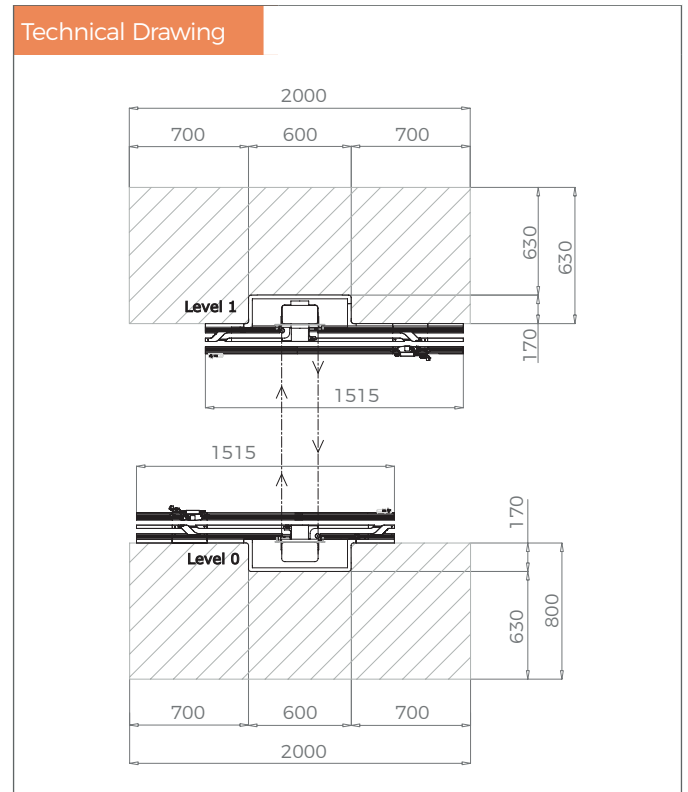
### Part Numbers

	FlexLab™	FlexLab™ for High Throughput
Main Module	N.A.	FLX-204-10
Slot	N.A.	FLX-504-10
Configuration (1m)	N.A.	FLX-075-00

N.A. = Not Available.

	Level 0	Level 1
Maximum continuous current (A)	/	/
Maximum alternate current (A)	1.3	1.7
Total power consumption (VA)	299	391
Heat (BTU/h)	813.3	1063.5

### Technical Drawing



Module dimensions and clearances expressed in mm.

# Appendix

## Technical Specification for fireproof installation

In this datasheet, the focus will be related to the fire protections needed for the module. Note that the fire regulation is strictly related to the specific country on which the VTM will be installed. These guidelines have to be considered as a general indication on which define the final requirements for the country.

During installation it will be necessary to insulate the floors with special fire-fighting material (as: rock wool and following the specific country regulation, fig 1 in yellow).

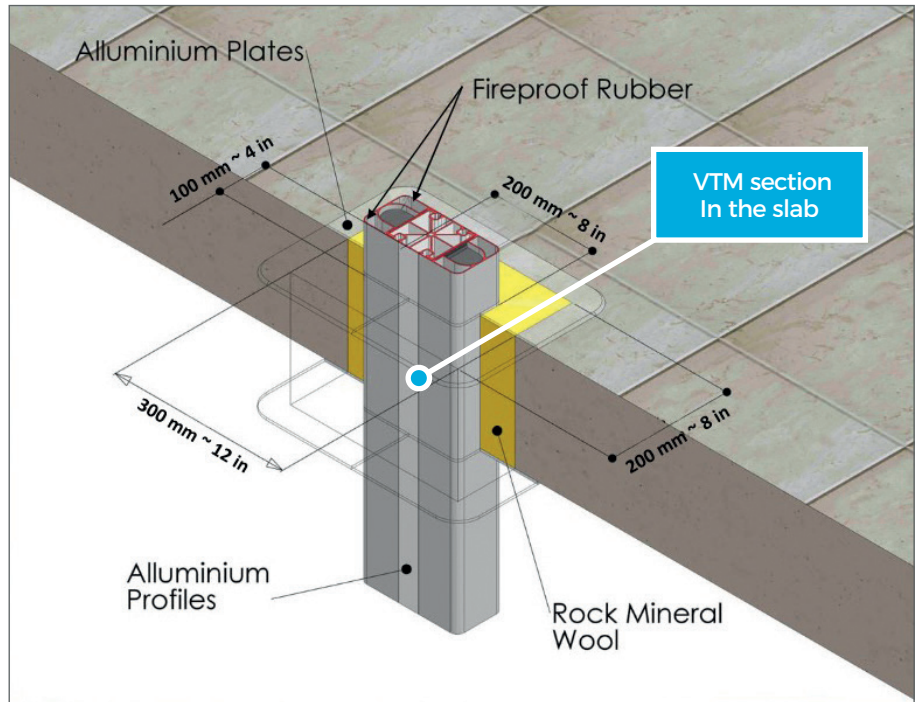
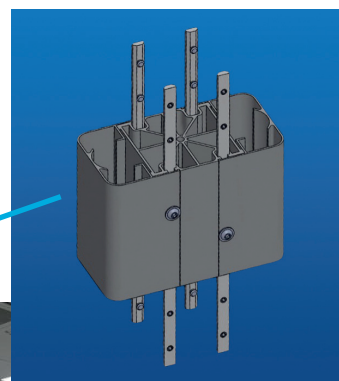
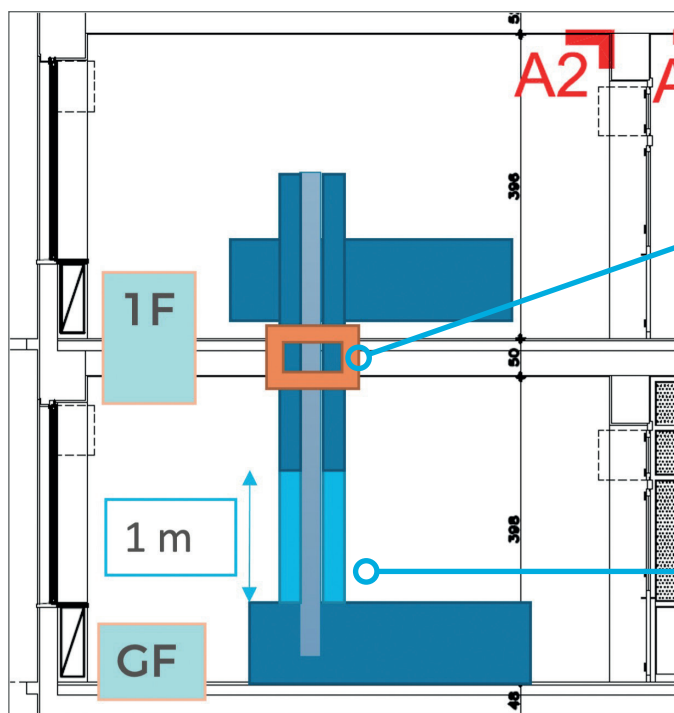


Fig. 1

The section of VTM (fig. 2) that will pass through the slab must be filled up by a fireproof rubber (as: foam following the specific country regulation; fig 1) that is not provided by Inpeco.



VTM section placed in the slab of the building

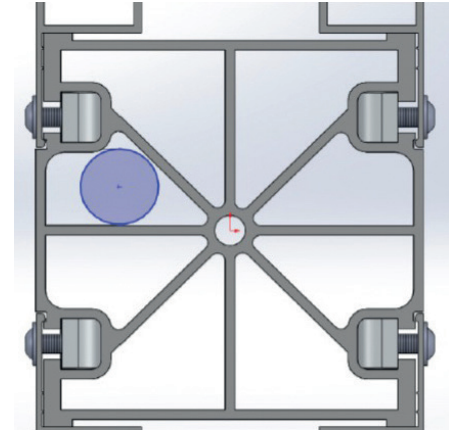
Fig. 2





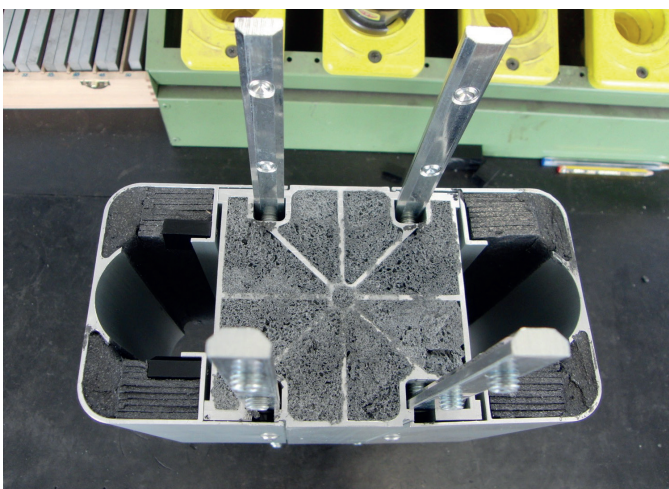
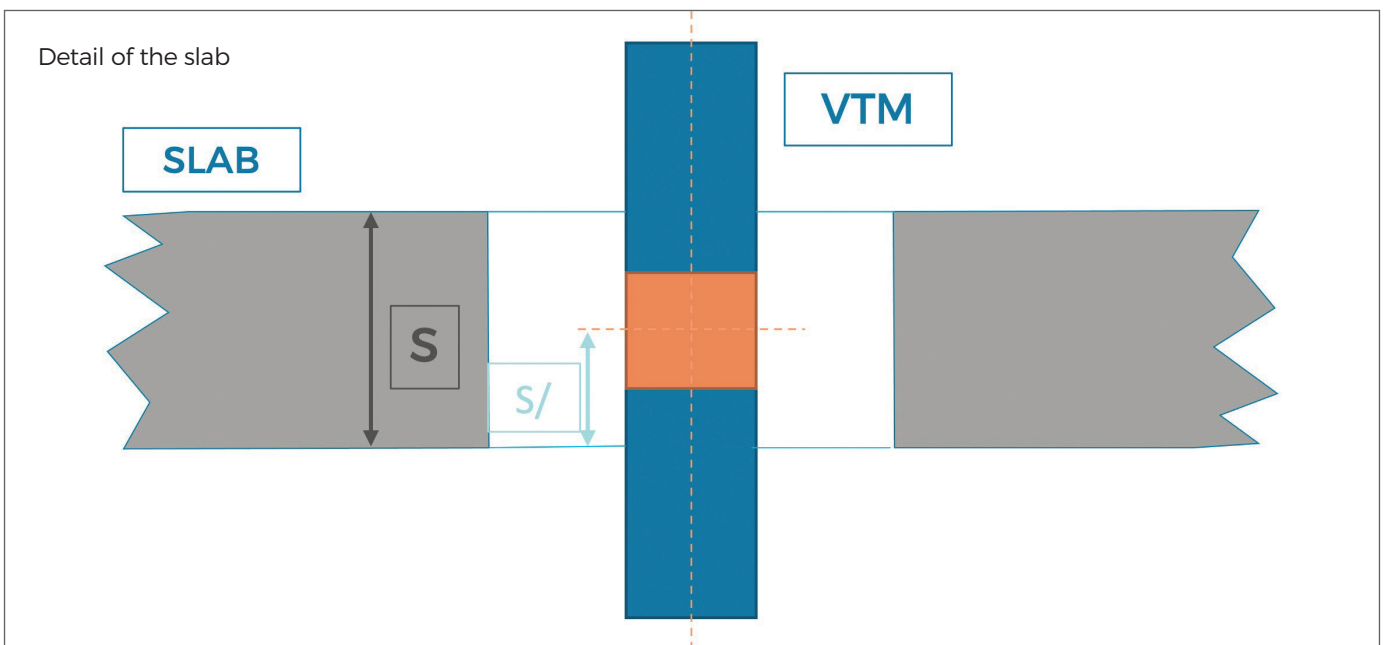
Inpeco will provide the two aluminum plates (fig. 1 and 3) that are placed one on the ceiling of the lower floor (fig. 3) and one on the floor of the upper floor (fig. 1).

Fig. 3

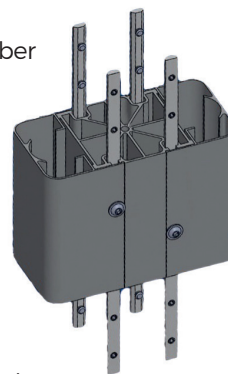


Into the VTM beam a space for cables passages must be foreseen (fig. 4)

Fig. 4



Example of fireproof rubber



Piece of foam beam

N.B. Inpeco does not provide the foam and its technical specifications, they depends on fire protection requirements for the building/country.