

Natural Ventilation Assignment

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INITIAL PARAMETERS (Actual Meyerson Hall Dimensions)

Side windows dimensions

Double opening window

hupper

ΔH

Typical floor – Façade elevation

In each floor, there is only one opening per window (see schematic)

In each floor, there are two openings separated vertically per window (see schematic). REQUIRED for single-sided ventilation

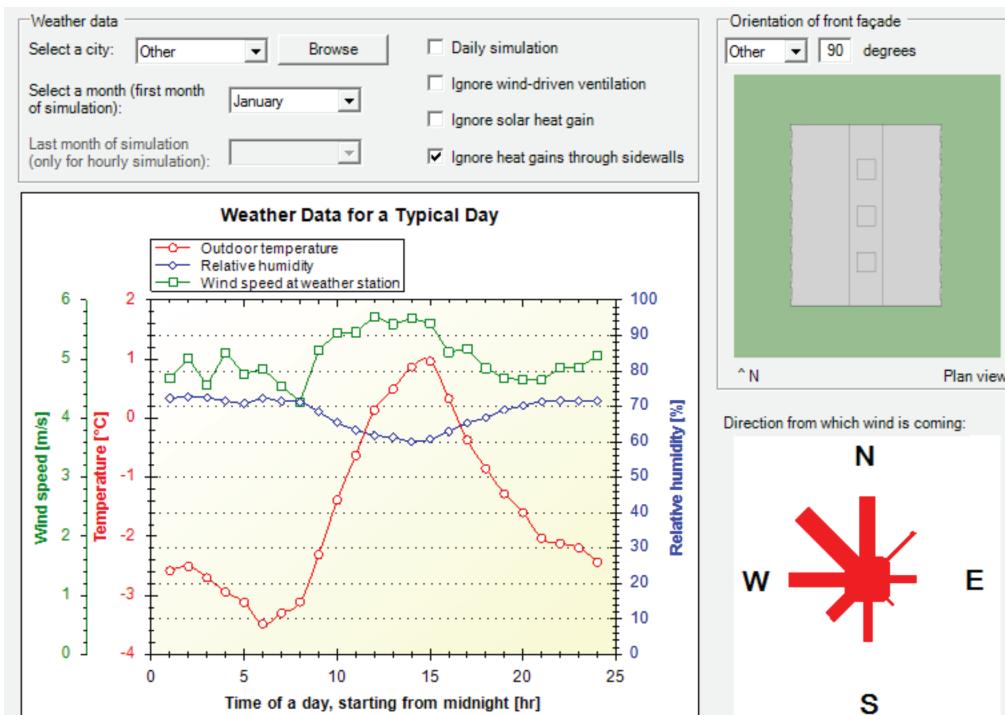
Window glazing area per floor per facade, fixed and operable (to calculate solar gains through windows): m²

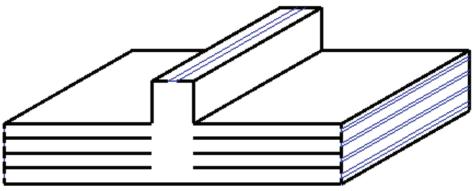
Operable upper window area per floor (used to calculate air flowrate): m²

Height from floor to upper opening (hupper): m

Operable lower window area per floor per facade: m²

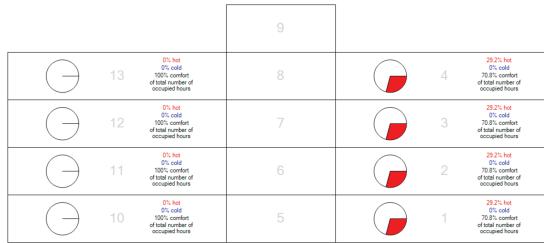
Height difference between upper and lower opening (ΔH in figure): m



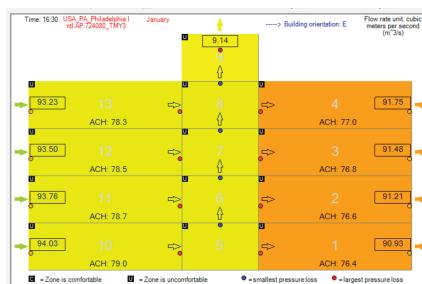
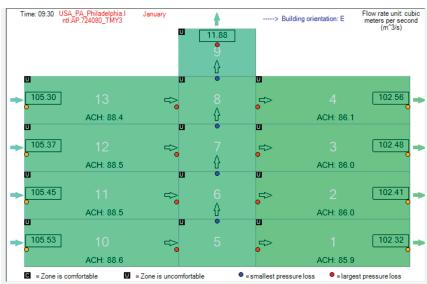
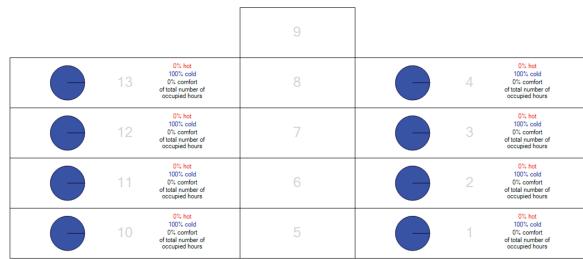


Design #1
Central Atrium

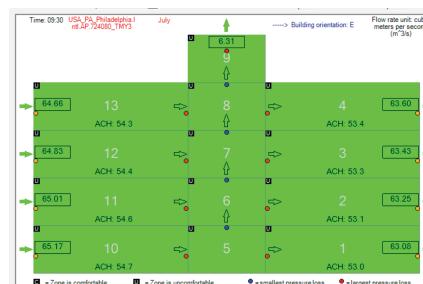
Number of floors:	4
Floor length:	35 m
Floor (bay) width:	35 m
Floor-to-floor height:	3.5 m
Floor-to-ceiling height:	3 m
Chimney width:	10 m
Chimney height:	10 m



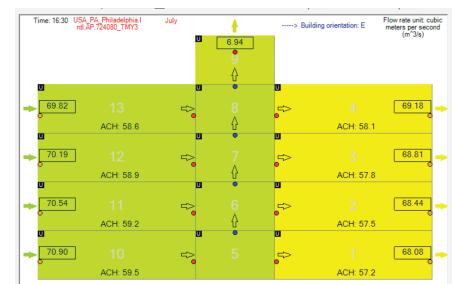
June

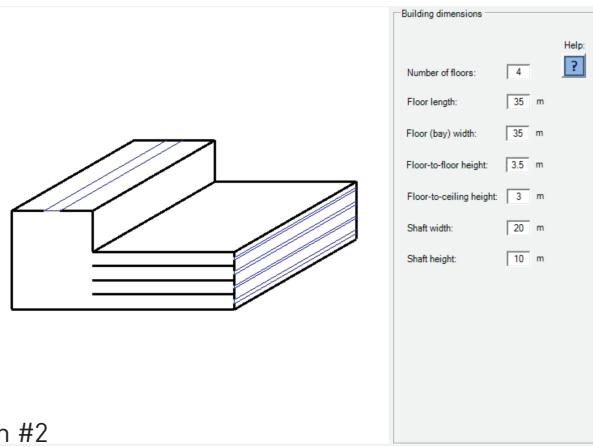


January



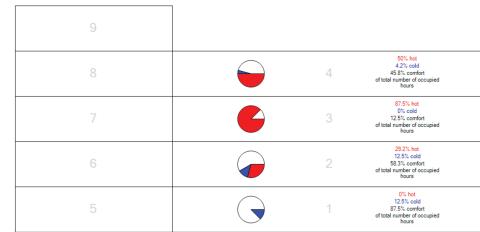
July



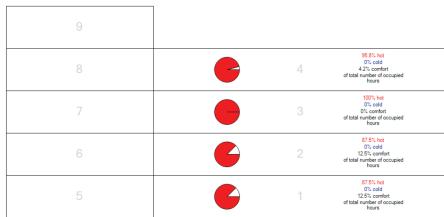
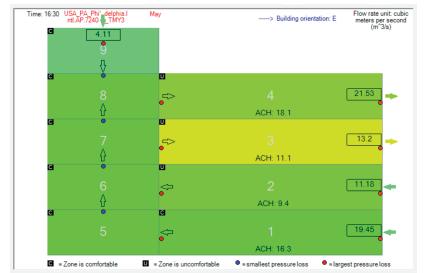
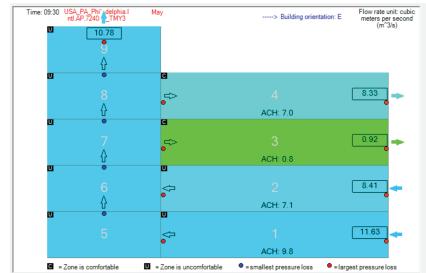


Design #2

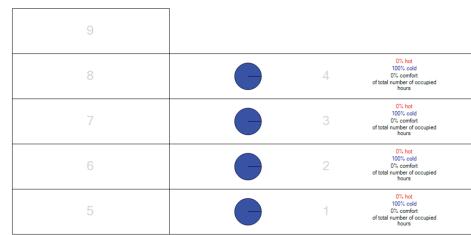
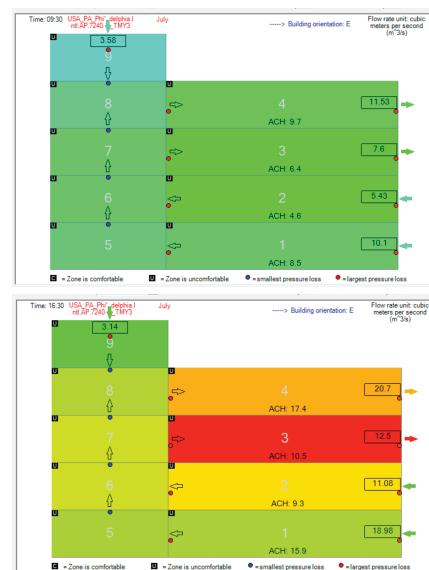
Chimney



May



July



January

