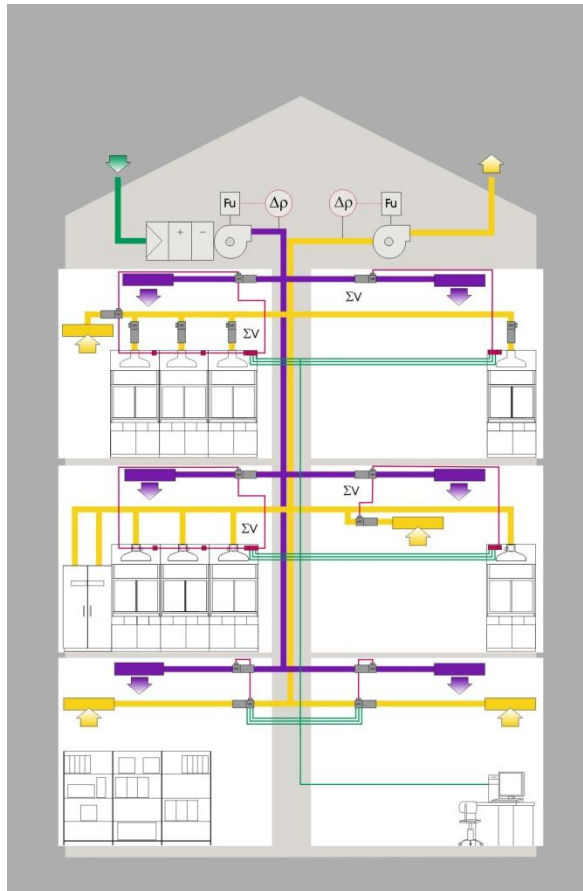


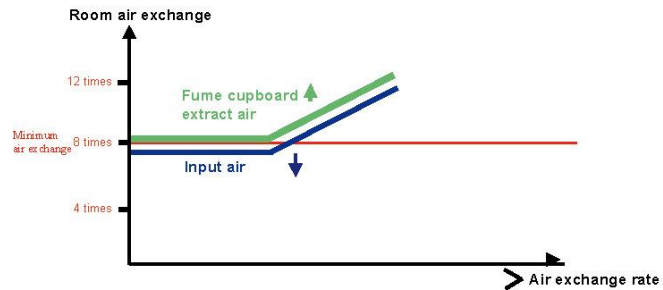
Surrey University

Energy Efficient Fume Cupboards

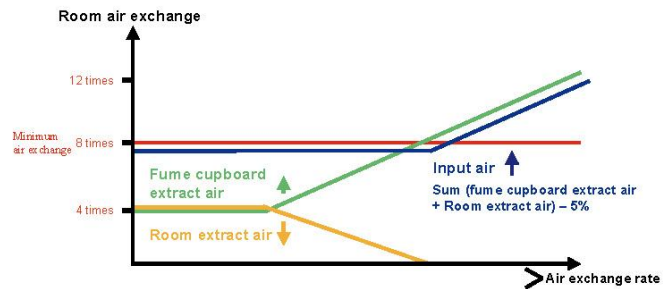
Laboratory Room Control - CV



Strategy of laboratory control: waste air duct 100 % via fume cupboards



Strategy of laboratory control: room extract air in opposite direction of fume cupboards



Example of a laboratory control variant

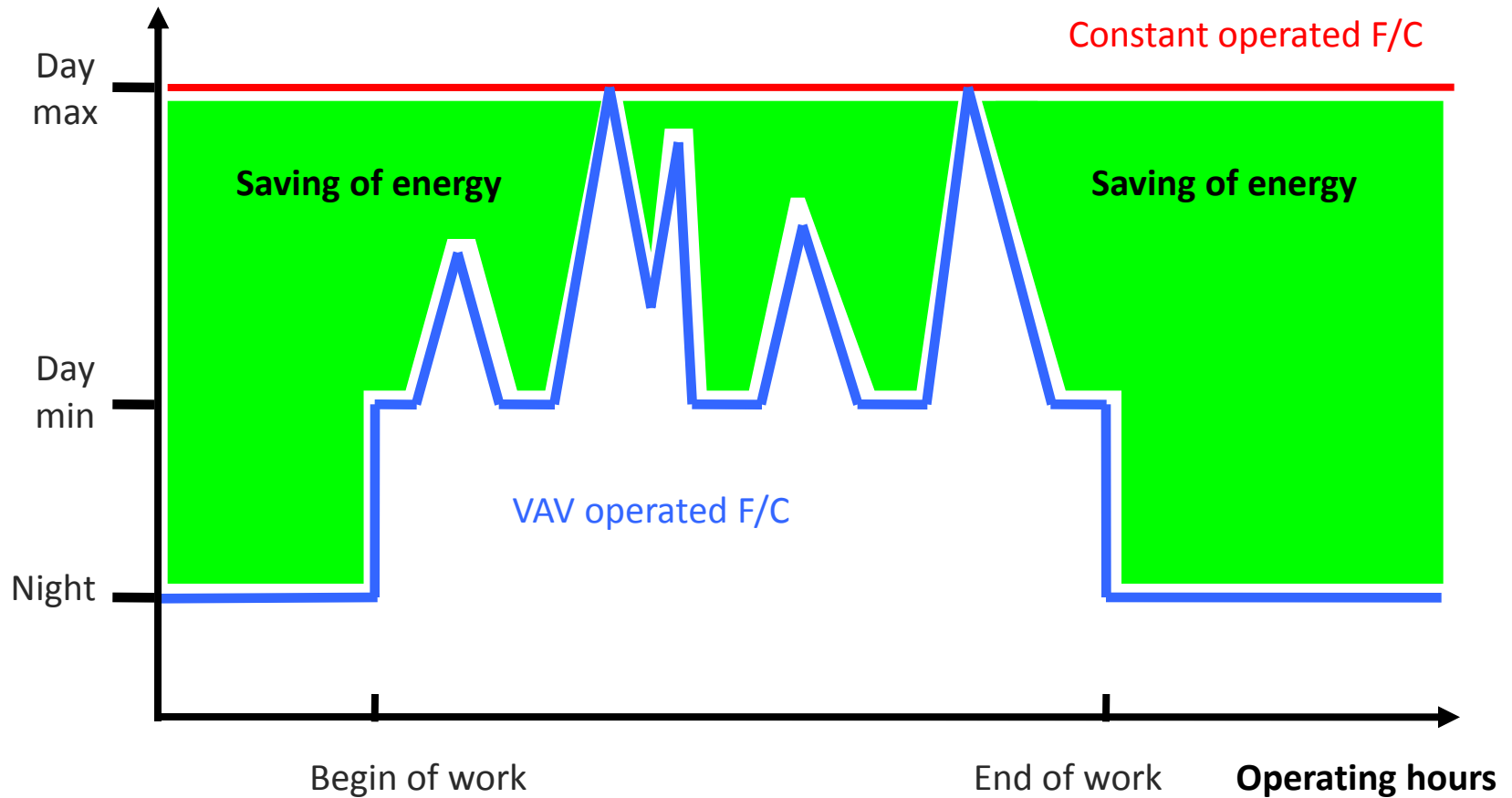
....and now Energy Efficiency

- To run a system on 0.5 m/s AND 0.3 m/s is counter-productive
- Conventional fume cupboards (0.5 m/s) are not safe at lower volumes
- Low volume fume cupboards (0.3 m/s) do not work at high volumes
- In order to achieve low energy consumption, high efficiency, low operational cost and the lowest possible carbon footprint whilst ensuring the required level of safety a proven low volume technology combined with a VAV system is required.

THE ANSWER IS A VAV SECUFLOW SYSTEM

True (VAV) energy efficiency

Need of energy



Up-front and life cycle costings

- **Operation cost of low volume fume cupboards**
 - Reduction of face velocity from 0.5 m/s to 0.3 m/s
 - Assume £1 per 1000 m³/h
 - 10 h p. day x 260 days = 2.600 h operation time p. a.
 - 1800 (RWI) fume cupboard at 0.5m/s = 1575 m³/h
 - 1800 (RWI) fume cupboard at 0.3m/s = 945 m³/h
 - **40% less operations cost**
- **Investment costs of the ventilation plant**
 - £15 for each m³ of air
 - Standard fume cupboard: 1575 m³/h
 - Secuflow fume cupboard: 950 m³/h
 - Reduction of exhaust flow: 625 m³/h
 - Buy 10 Secuflow fume cupboards
 - **save of investment costs: £93.750**

SECUFLOW® Technology



Secuflow[®] Fume Cupboards *(highly effective low energy Fume Hood solution)*

- Functionality
- Safety
- Efficiency
- VAV Regulation System



Secuflow® Fume Cupboards – supportive air supply

