Designing NV with installation in mind

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www.secontrols.com
Associations and accreditations

Creating a Healthier and Safer Environment
Introduction to SE Controls

30 years anniversary!

designing & installing smoke & natural ventilation systems.

Actively involved: industry standards committees

BS, EN, DTI and BRE projects.

70+ employees including 35+ engineers:

- covering British Isles alone

Creating a Healthier and Safer Environment
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The contractors’ experience

Uh Oh!
Natural Ventilation

Architect’s Specification

M & E Specification
Creating a Healthier and Safer Environment

Façade Elements
Façade Elements
Creating a Healthier and Safer Environment

Stroke lengths

- Both are 800mm wide
- 30°
- 1000 mm
- ~550 mm
- 1750 mm
Stroke lengths

- Single chain actuator
- 140N force @ 90° open
- Min 550mm stroke
## Example options

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>stroke</th>
<th>size</th>
<th>current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SECO N 24 40</td>
<td>600 mm</td>
<td>42 x 52 x 635</td>
<td>0.9A</td>
</tr>
<tr>
<td>2</td>
<td>TGCO 24 30</td>
<td>603 mm</td>
<td>40 x 40 x 820*</td>
<td>0.7A</td>
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<tr>
<td>3</td>
<td>SECO 24 40</td>
<td>600 mm</td>
<td>50 x 86 x 573</td>
<td>2.3A</td>
</tr>
</tbody>
</table>
Stroke lengths

- Single chain actuator
- 245N force @ 90° open
- Single locking motor
- Min 875 mm stroke

Creating a Healthier and Safer Environment
### Example options

<table>
<thead>
<tr>
<th></th>
<th>Model</th>
<th>Stroke</th>
<th>Size</th>
<th>Current</th>
<th>Force</th>
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<tr>
<td>1</td>
<td>SECO N 24 40</td>
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<td>400 N</td>
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<tr>
<td>2</td>
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<td>1000 mm</td>
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<td>100 N</td>
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<tr>
<td>3</td>
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<td>835 mm</td>
<td>50 x 86 x 687</td>
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<td>200 N</td>
</tr>
</tbody>
</table>

+ Multipoint Locking Motor

Creating a Healthier and Safer Environment
$1\text{m} \times 1\text{m} \neq 1\text{m}^2$

Geometric Free Area

Effective Free Area

$\sim 0.62\text{m}^2$
Stroke lengths

e.g. Schüco AWS 65 Top Hung Open Out
Concealing actuators
Finger Trap Risk

EN60335 part 2 103:2003
• Automatic window
• below 2.5m from FFL

= it must be risk assessed for finger trap injury

Solutions possible e.g.
• Programmable actuators or
• Control strategy changes.
AOV effect on controls

- Model A
  - 24v DC
  - 380mm opening
  - 2.0 amps draw
  - £100 installed

- Model B
  - 24v DC
  - 350mm opening
  - 0.5 amps draw
  - £120 installed

Glazing Contractor picks this one!!
Typical example

Typically £3,000

VS

Typically £1,600
Saves approx £1,400

Creating a Healthier and Safer Environment
Manual switch only

CABLING

LOCAL P&C

ENVELOPE

To next O52 / Zone
Fire Alarm interface
Fireman’s Override Switch
Optional additional Maintenance switch
230V~ supply
Slave to BMS system
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Stand alone centralised system
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Stand alone zone controllers
Summary

• AOV design effects controls design & cost
• Controls must be compatible with AOVs
• NV Strategies determine controls hardware
• M&E spec and Architect’s spec must coordinate
• To avoid costs spiralling or dramatic ‘VE’…

Get specialists involved at design stage