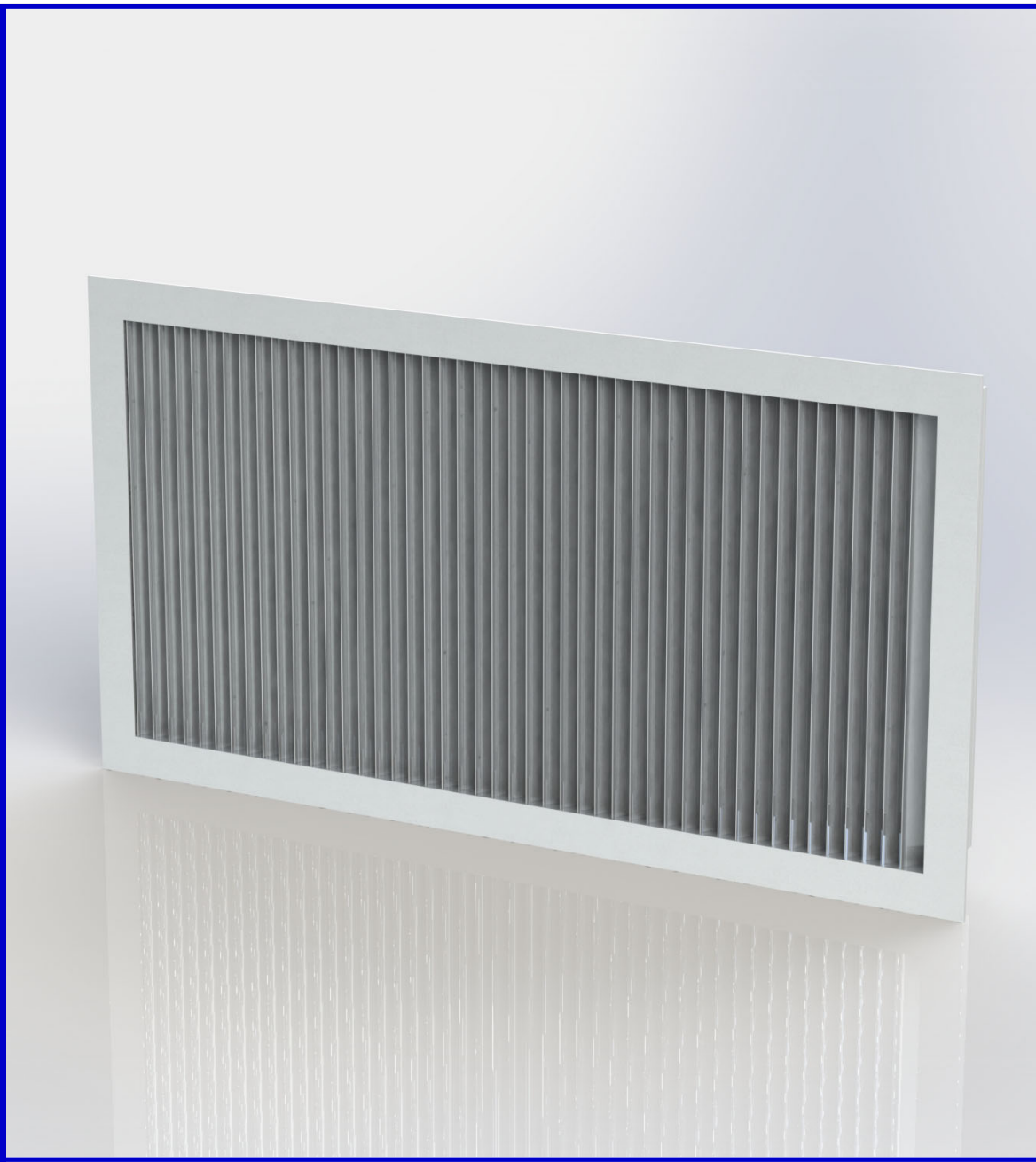
*Incorporating*

# Louvre systems

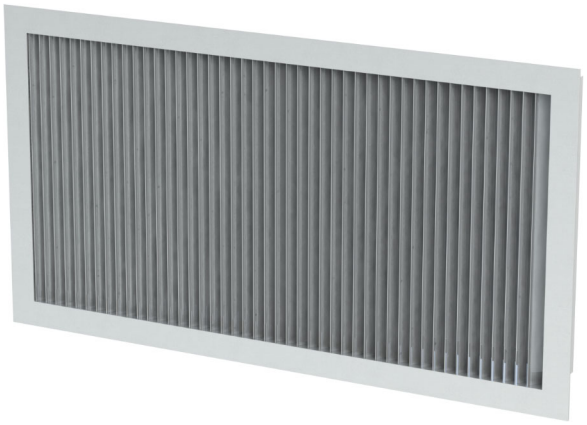
## Series SL25
Storm louvre

- Extremely high performance weather louvre with vertical blades
- Class A1 performance, the highest classification possible
- No compromise between high airflow and high levels of rain rejection
- Additional test evidence confirms suitability of louvre when exposed to angled rainfall



SL25: November 2026

## Series SL25



The Series SL25 Storm Louvre is an extremely high performance weather louvre, intended for installations demanding unimpeded ventilation without the risk of weater ingress.

The vertical blade design has significant performance advantages over even the best horizontally bladed louvres, allowing rain rejection to be maximised whilst minimising pressure drops.

SL25 performance when tested against BS EN 13030:2001, the most widely used weather louvre test standard in Europe has been verified at BSRIA to be:

**Class A1 up to 3.5 m/s**

The SL25 can be used as a standalone product, or as part of a larger assembly, for example as part of prefabricated modules comprising custom sheet metal, motorised volume control dampers and internal grilles.

## Design features

| | |
|---|---|
| **Material** | Extruded aluminium frame and blades<br>Stainless steel fixings |
| **Blade** | Single bank vertical blade, 25mm pitch |
| **Frame** | Standard: Flanged (55mm flange)<br>Optional: Recessed |
| **Sizes** | Minimum: 200mm wide x 200mm high (nominal)<br>Maximum: 2000mm wide x 1200mm high (nominal)<br><br>Larger requirements can be served by manufacturing in sections |
| **Fixings** | Standard: None<br>Optional: Countersunk fixing holes in flange |
| **Finish** | Standard: Mill aluminium<br>Optional: See page 8 |
| **Mass/m² face area** | 30kg approx (based on 1m x 1m nominal size unit, smaller units will be proportionally heavier relative to their size) |

## Quality assurance

HVC Supplies (Stourbridge) Ltd is an ISO9001 certified company

BRE GLOBAL CERTIFICATION
UKAS MANAGEMENT SYSTEMS 0007

Assessed to ISO 9001
Cert/Ref no. 1186

## Certification

SL25 storm louvres have been tested against:

**BS EN 13030:2001**

The testing was carried out in November 2023 by BSRIA in Bracknell, Berkshire, England.

Further testing to prove suitability for angled rainfall was carried out in April 2024, also by BSRIA. See page 5 for more information.

Copies of both test reports are available on request.

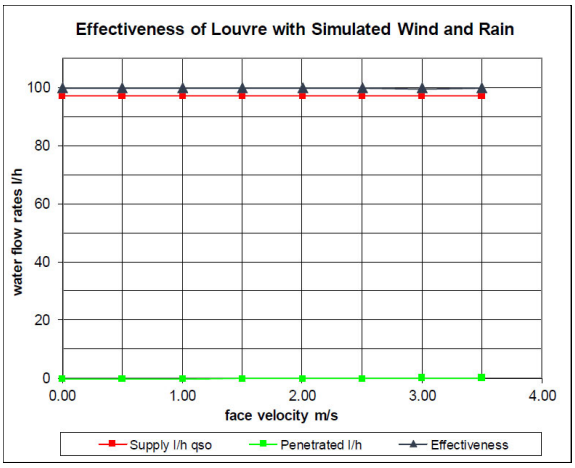
## Test results - SL25

**SL25**
Storm louvre (no mesh fitted)

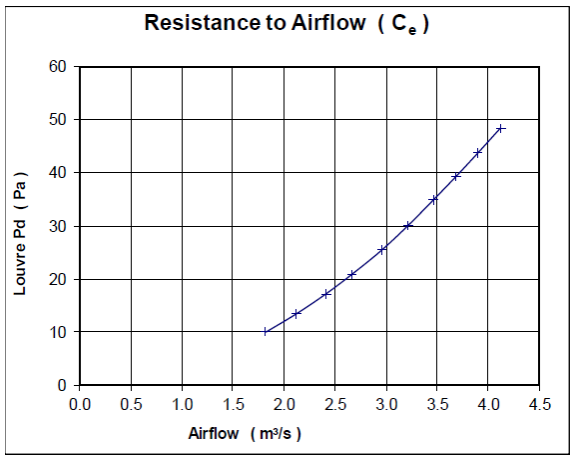
**Classification:** Class A1 up to 3.5 m/s draw velocity

**Mean coefficient of entry:** 0.481
**Mean coefficient of discharge:** 0.431

| Rain rejection test results | | | | | |
|---|---|---|---|---|---|
| Ventilation rate | | Water flow rates | | | |
| Volume (m3/s) | Velocity (m/s) | Supply (l/h) | Penetrated (l/h) | Effectiveness | Class |
| | | | | | |
| 0.00 | 0.00 | 97.2 | 0.0 | 100.0% | A |
| 0.47 | 0.50 | 97.2 | 0.0 | 100.0% | A |
| 0.94 | 1.00 | 97.2 | 0.0 | 100.0% | A |
| 1.40 | 1.50 | 97.2 | 0.0 | 100.0% | A |
| 1.87 | 2.00 | 97.2 | 0.0 | 100.0% | A |
| 2.34 | 2.50 | 97.2 | 0.0 | 100.0% | A |
| 2.81 | 3.00 | 97.2 | 0.0 | 100.0% | A |
| 3.27 | 3.50 | 97.2 | 0.0 | 100.0% | A |

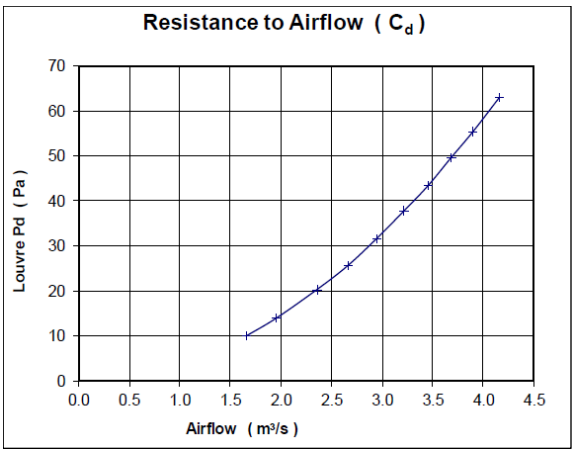



| Airflow test results (entry) | | | | |
|---|---|---|---|---|
| | | Air flow rate | | |
| Pressure drop (Pa) | Louvre face velocity (m/s) | Test ($m^3/s$) | Theoretical ($m^3/s$) | Coefficient ($C_e$) |
| | | | | |
| 10.0 | 1.95 | 1.822 | 3.848 | 0.473 |
| 13.5 | 2.27 | 2.126 | 4.471 | 0.475 |
| 17.2 | 2.58 | 2.412 | 5.047 | 0.478 |
| 20.9 | 2.85 | 2.667 | 5.563 | 0.479 |
| 25.4 | 3.16 | 2.956 | 6.133 | 0.482 |
| 30.1 | 3.44 | 3.219 | 6.676 | 0.482 |
| 34.8 | 3.70 | 3.461 | 7.178 | 0.482 |
| 39.3 | 3.94 | 3.688 | 7.628 | 0.483 |
| 43.7 | 4.17 | 3.901 | 8.044 | 0.485 |
| 48.4 | 4.41 | 4.123 | 8.466 | 0.487 |
| | | | **Mean Ce** | **0.481** |
| | | | **Class** | **1** |



## Test results - SL25 (continued)

| Airflow test results (discharge) | | | | |
|---|---|---|---|---|
| | | Air flow rate | | |
| Pressure drop (Pa) | Louvre face velocity (m/s) | Test ($m^3/s$) | Theoretical ($m^3/s$) | Coefficient ($C_d$) |
| | | | | |
| 10.0 | 1.77 | 1.659 | 3.848 | 0.431 |
| 14.0 | 2.10 | 1.959 | 4.553 | 0.430 |
| 20.3 | 2.52 | 2.357 | 5.483 | 0.430 |
| 25.6 | 2.85 | 2.662 | 6.157 | 0.432 |
| 31.7 | 3.16 | 2.951 | 6.852 | 0.431 |
| 37.8 | 3.44 | 3.219 | 7.482 | 0.430 |
| 43.4 | 3.70 | 3.457 | 8.017 | 0.431 |
| 49.7 | 3.94 | 3.688 | 8.579 | 0.430 |
| 55.4 | 4.17 | 3.901 | 9.058 | 0.431 |
| 63.0 | 4.45 | 4.162 | 9.659 | 0.431 |
| | | | **Mean Cd** | **0.431** |
| | | | **Class** | **1** |



# Further testing - SL25 in angled plenum

HVC have gone further than the standard EN 13030 test regime by performing additional testing at BSRIA to prove the suitability of the SL25 when subjected to angled rainfall.

Standard testing requires the louvre to be mounted such that rain hits the louvre perpendicularly. This can be assumed to be representative of real world conditions for horizontally bladed louvres, however can reasonably be thought to present a potential problem for vertically bladed models.

HVC comissioned BSRIA to perform additional rain rejection testing on the same SL25 test sample for which standard results were obtained, but with the louvre fitted into an angled plenum, simulating rain hitting the louvre at 30° from perpendicular in both directions.

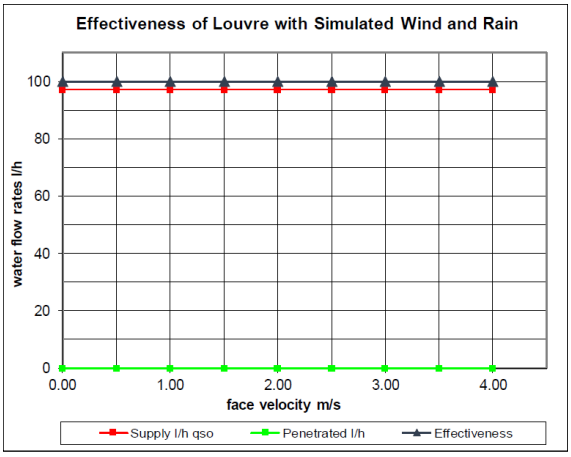
The results show almost no degradation in performance.

Copies of the test report are available on request.

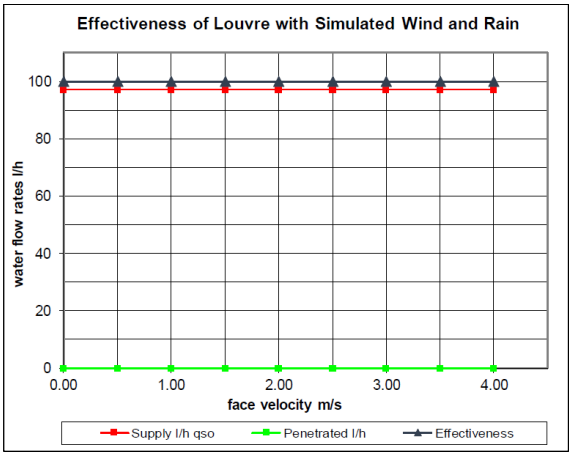
**Important note:** This testing was conducted as development time and deviated from the routine specified by EN 13030 in terms of time spent at each velocity and physical setup.



| Rain rejection test results: +30° | | | | | |
|---|---|---|---|---|---|
| Ventilation rate | | Water flow rates | | | |
| Volume (m3/s) | Velocity (m/s) | Supply (l/h) | Penetrated (l/h) | Effectiveness | Class |
| | | | | | |
| 0.00 | 0.00 | 97.2 | 0.0 | 100.0% | A |
| 0.47 | 0.50 | 97.2 | 0.0 | 100.0% | A |
| 0.93 | 1.00 | 97.2 | 0.0 | 100.0% | A |
| 1.40 | 1.50 | 97.2 | 0.0 | 100.0% | A |
| 1.87 | 2.00 | 97.2 | 0.0 | 100.0% | A |
| 2.33 | 2.50 | 97.2 | 0.0 | 100.0% | A |
| 2.80 | 3.00 | 97.2 | 0.0 | 100.0% | A |
| 3.26 | 3.50 | 97.2 | 0.0 | 100.0% | A |
| 3.73 | 4.00 | 97.2 | 0.0 | 100.0% | A |




| Rain rejection test results: -30° | | | | | |
|---|---|---|---|---|---|
| Ventilation rate | | Water flow rates | | | |
| Volume (m3/s) | Velocity (m/s) | Supply (l/h) | Penetrated (l/h) | Effectiveness | Class |
| | | | | | |
| 0.00 | 0.00 | 97.2 | 0.0 | 100.0% | A |
| 0.47 | 0.50 | 97.2 | 0.0 | 100.0% | A |
| 0.93 | 1.00 | 97.2 | 0.0 | 100.0% | A |
| 1.40 | 1.50 | 97.2 | 0.0 | 100.0% | A |
| 1.87 | 2.00 | 97.2 | 0.1 | 99.9% | A |
| 2.33 | 2.50 | 97.2 | 0.1 | 99.9% | A |
| 2.80 | 3.00 | 97.2 | 0.1 | 99.9% | A |
| 3.26 | 3.50 | 97.2 | 0.1 | 99.9% | A |
| 3.73 | 4.00 | 97.2 | 0.1 | 99.9% | A |



# Overview of EN 13030:2001

Within Europe the generally applicable standard for the testing of weather louvres is:

**BS EN 13030:2001**
Ventilation for buildings - Terminals
Performance testing of louvres subject to simulated rain

This test evaluates weather louvre designs based on two criteria:

- Resistance to the ingress of simulated rain
- Resistance to airflow in terms of pressure loss through the louvre

Louvre classifications are given as in the example below (or in a format to the same effect):

- A2 up to 2 m/s

# Guide to classification

The grading system is as follows:

**Resistance to ingress of simulated rain**

- **Class A** Excellent
  99% effective and above
  Up to 0.750 l/hr/m$^2$
- **Class B** Good
  Between 95% and 98.9% effective
  Between 3.750 l/hr/m$^2$ and 0.751 l/hr/m$^2$
- **Class C** Fair
  Between 80% and 94.9% effective
  Between 15.000 l/hr/m$^2$ and 3.751 l/hr/m$^2$
- **Class D** Poor
  Less than 80% effective
  Greater than 15.000 l/hr/m$^2$

l/hr/m$^2$ Litres of water per hour per square metre of louvre

**Resistance to airflow in terms of pressure loss**

- **Class 1** Excellent
  $C_e$ of between 0.4 and 1.0
- **Class 2** Good
  $C_e$ of between 0.3 and 0.399
- **Class 3** Fair
  $C_e$ of between 0.2 and 0.299
- **Class 4** Poor
  $C_e$ of 0.199 and below

$C_e$ - Coefficient of entry

# Important note

The way in which BS EN 13030:2001 grades weather louvres is very much open to misinterpretation and misuse:

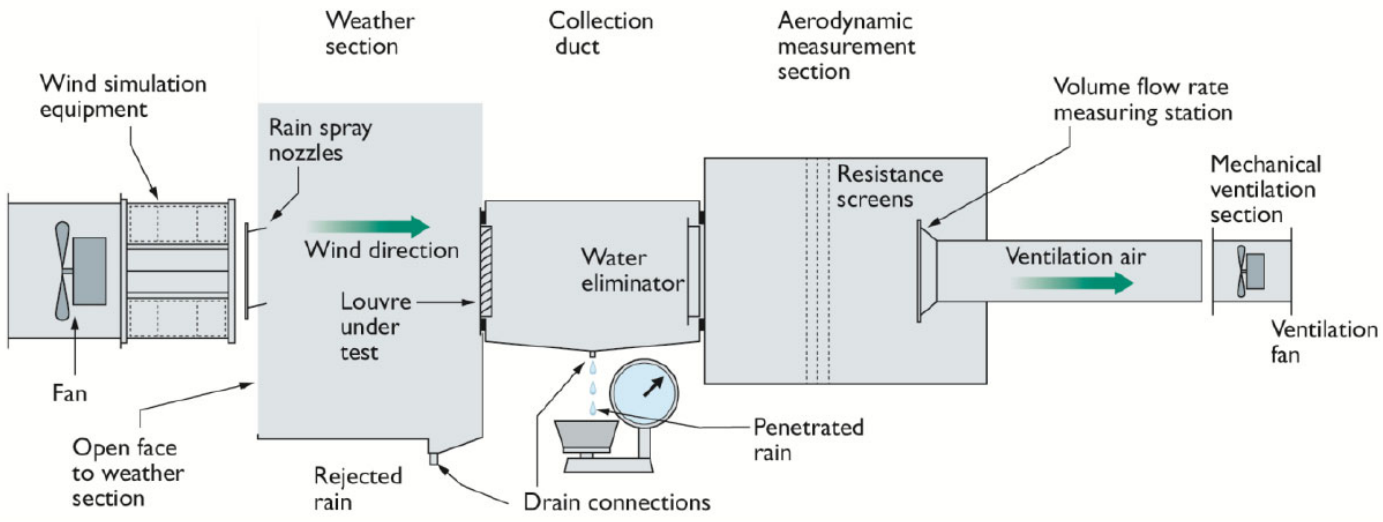
Many louvres are advertised as simply ‘Class A’; this is not giving the full picture and can mean that a louvre only gives ‘Class A’ performance at 0 m/s draw velocity.

Once air actually begins to be drawn through the louvre this rain rejection performance can rapidly drop, allowing a large quantity of water to enter the building.

The ‘Class A’ classification should always be accompanied by the draw velocity at which it was achieved.

# Test method

A schematic representation of the test rig.




**The test comprises two parts:**

**Water penetration**

The weather louvre is subjected to fan driven wind at a speed of 13 m/s and water sprayed as rainfall at a rate of 75 l/h. In addition to the simulated wind and rain, air is drawn through the louvre at various set velocities (0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0 and 3.5 m/s).

Each test is preceded by a suitable ‘pre-test’ soak which is typically around 30 minutes. Each test is run until the results become stable, and in any case, for a minimum of 30 minutes.

The penetrated water is collected in the collection duct and is measured and recorded against time elapsed.

A range of measurements are taken to give the characteristic curve for the test louvre.

**Pressure drop**

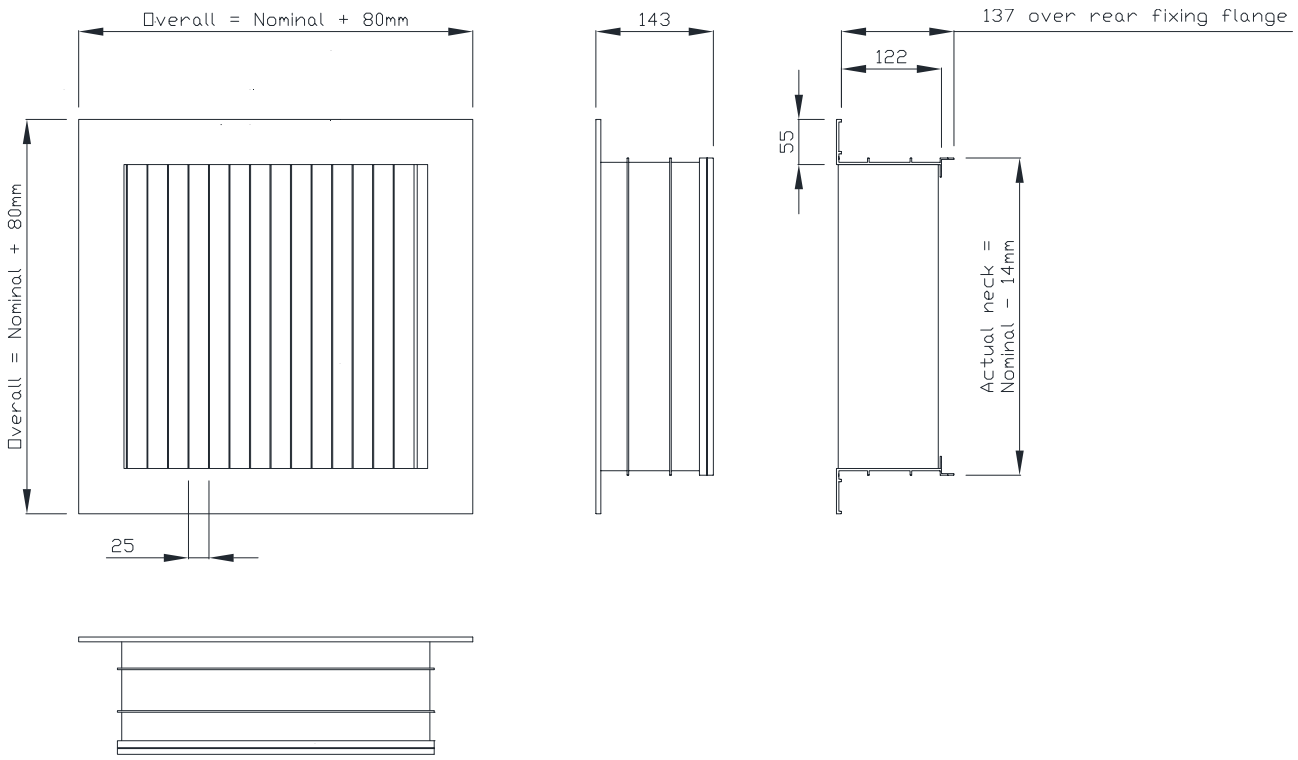
For this test, the Aerodynamic Measuring Section (AMS) is separated from the main rig. The louvre is then mounted in the upstream opening of the AMS.

Pressure tappings in the plenum walls of the AMS allow measurement of the static pressure within the plenum during testing. The airflow volume is calculated from the differential pressure at the measuring cones. The plenum has a set of settling screens within to produce even flow through the cones and therefore gives an accurate reading of the total volume.

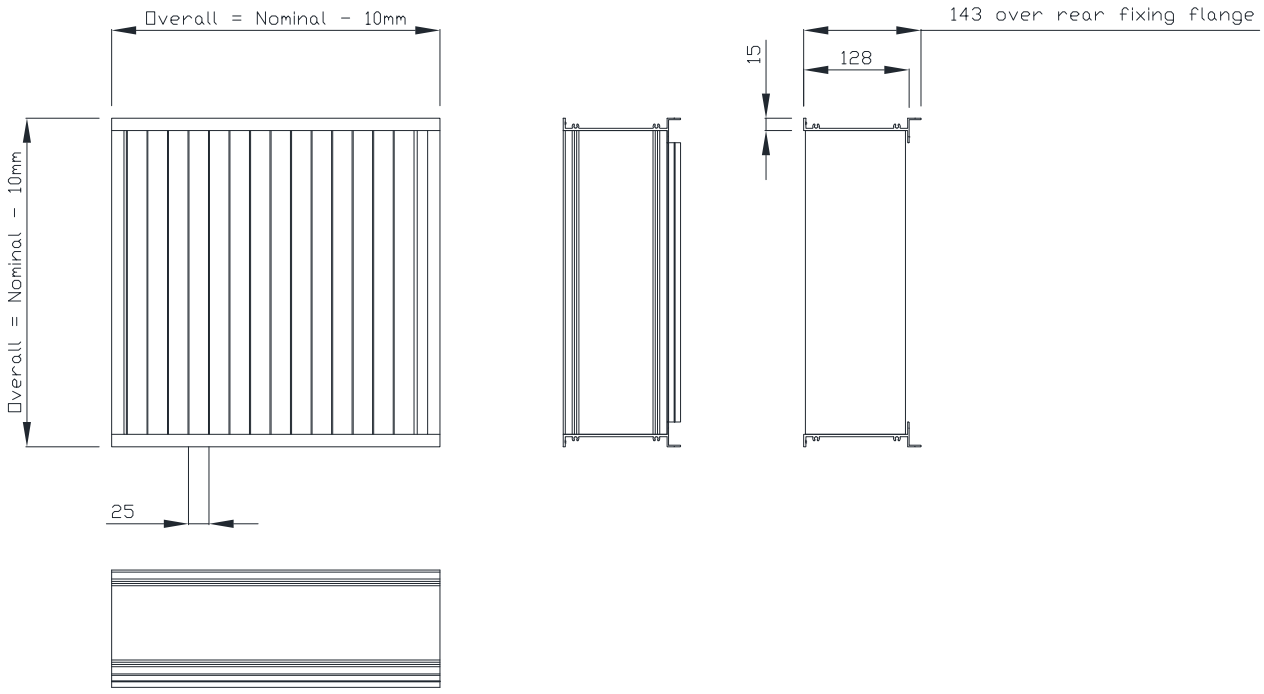
By adjusting the fan speed, the total airflow through the system varies and therefore changes the pressure on the louvre under test. A range of measurements are taken to give the characteristic curve for the test louvre.

# Technical drawings

**SL25:** Flanged unit (standard)




**SL25-REC:** Recessed unit (optional)



# Technical drawings

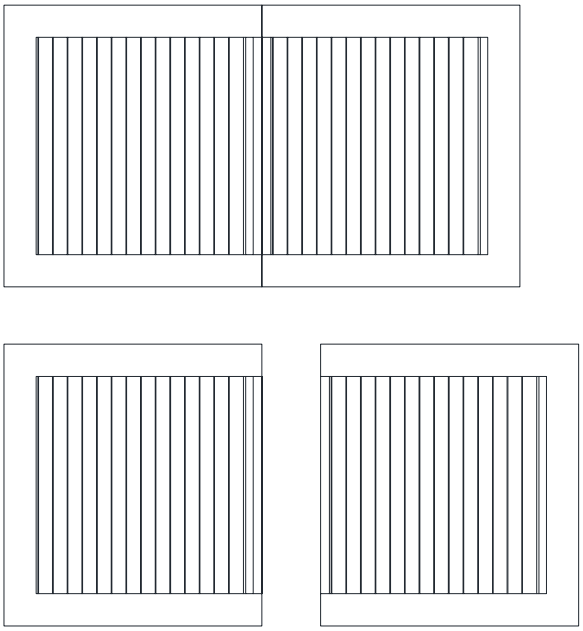
## Multi-section units

Large louvres may need to be produced in multiple sections, in this way louvre banks of unlimited size can be manufactured.

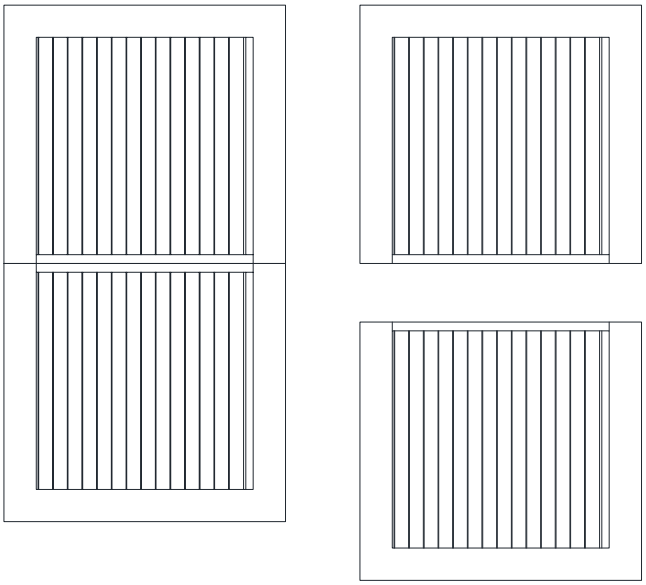
Adjacent sections will have a non-continuous appearance.

The number of sections can be stated in your ordering code, or will be decided by HVC and stated on your order acknowledgement.

### Side-by-side sections



### Stacked sections



## Joining procedure

Joining adjacent sections is quick and simple.

Fixing holes are factory punched into the 20mm rear flanges of adjacent louvre sections. To join the sections, simply line them up and bolt them together using the supplied fixings.

This is the case with both side-by-side sections (shown) and with stacked sections.

**Please note:** Render adjacent shows joining procedure of Series HPL80 louvres, SL25 louvres use the same method.



# Technical notes

### Louvre handing and bottom stop gaps

The use of a vertically mounted asymmetric blade means Series SL25 louvres must be handed. As standard all are 'left handed'; renders contained in this brochure show units with this handing.

All SL25 louvres also have a small stop gap mounted behind the blades on the bottom frame, this prevents water being driven over the integrated rear frame's upstand.

The presence of this stop gap means louvres should not be flipped from their intended orientation.

### Stop gaps

SL25 louvres are constructed with the left-most blade always in a set position, meaning a stop gap is almost certain to be required on the right hand side to block the gap which will be left.

These are visible as flat aluminium sections positioned between the right hand frame member and right-most blade, and are fitted prior to powder coating (if required).

# Fixings

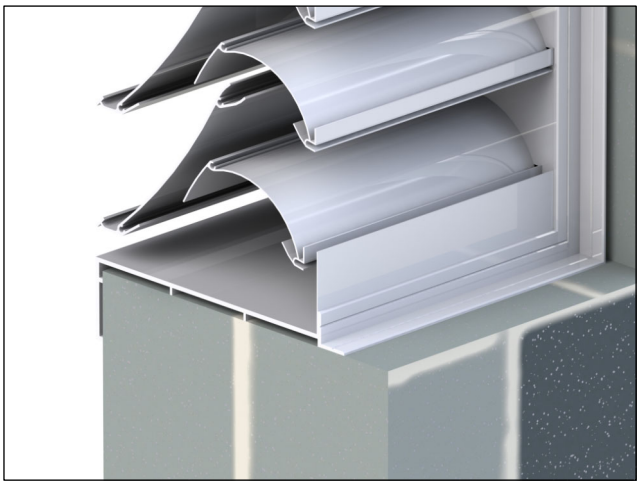
### Integrated rear fixing flange

Part of both the flanged and recessed frames for the SL25, the rear fixing flange serves to provide a bolting position for joining adjacent sections, and also as a concealed location for rear fixing..

This 20mm long, 2.5mm thick aluminium flange is supplied undrilled to accept whatever fixings are required on site.

A ‘v’ groove running down the centre of the flange aids drilling.

**Please note:** Render below shows rear fixing flange of Series HPL80 louvres, SL25 louvres use the same method.



### Factory punched face fixing holes - FH (optional)

5mm countersunk fixing holes will be punched into the louvre frame before powder coating, allowing quick and easy fitting on site.

The quantity and layout of fixing holes will be appropriate to louvre size. Arrangements can be specified, additional costs may be applicable.

Supplied with pozidrive self tapping screws in the same finish as the louvre.

**Please note:** Render below shows fixing holes in Series HPL80 louvres, SL25 louvres use the same method.



## Finish

Mill aluminium (standard)

Polyester powder coating to any RAL or BS colour



## Ordering codes

**Example**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **-** | **1000 x 1000** | **-** | **SL25** | **-** | **FH** | **-** | **RAL9010** | **-** | **1S** |

**Codes**

| | | | |
|---|---|---|---|
| **1)** | **Quantity** | | |
| **2)** | **Size (mm)** | (Width x height) | |
| **3)** | **Series** | SL25 | Storm louvre |
| **4)** | **Frame design** | *(nothing)*<br>REC | Flanged<br>Recessed |
| **5)** | **Fixings** | FH | Factory punched face fixing holes |
| **6)** | **Finish** | Mill<br>RAL...<br>BS... | Mill aluminium (standard)<br>Polyester powder coated to RAL...<br>Polyester powder coated to BS... |
| **7)** | **Sections** | _S | Number of sections required. If left blank this will be confirmed on order acknowledgement |

**Important:** Size will be taken to be nominal (hole internal) unless stated otherwise.

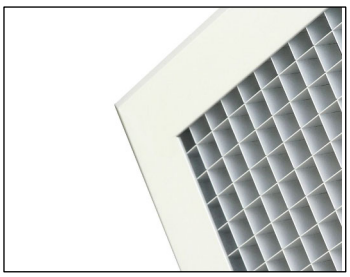
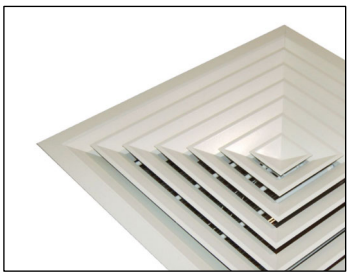
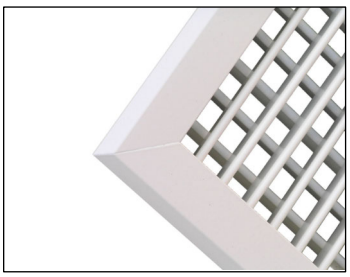
Leave code section blank if no option is required.

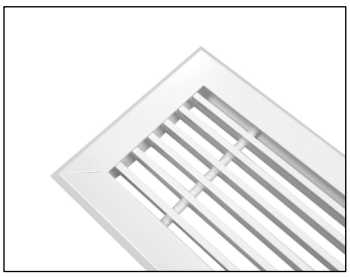
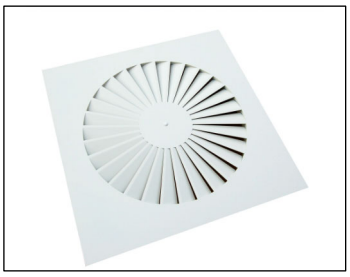
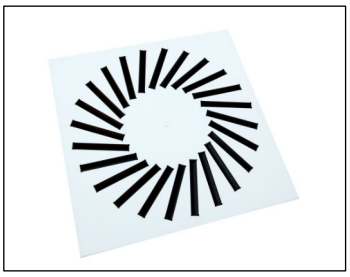
# HVC & NCA products

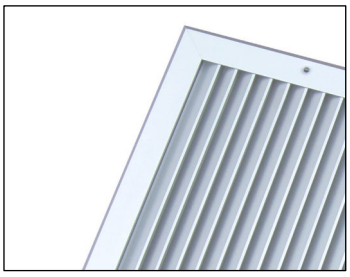
HVC offers the significant advantage of manufacturing both in duct and duct terminal equipment, making us a one stop shop for all your HVAC needs.

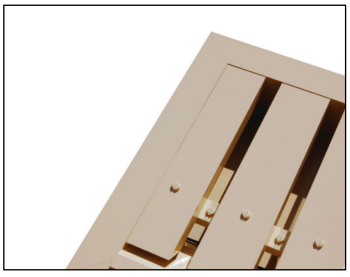
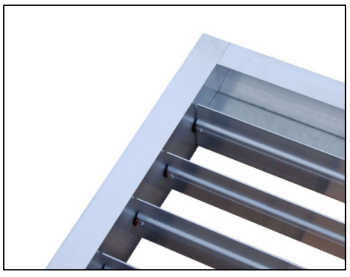
The products shown below are a selection, not an exhaustive list. Go to **www.h-v-c.com** for details on all HVC and NCA products.

## **HVC:** Grilles, diffusers, louvres and volume control dampers

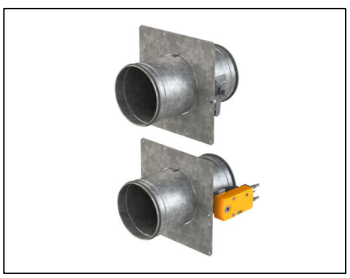




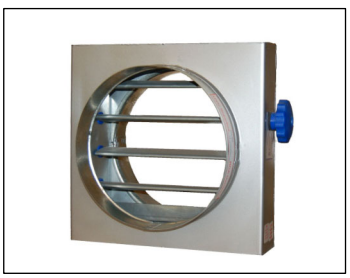






## **NCA:** Fire and volume control dampers















Assessed to ISO 9001
Cert/Ref no. 1186

HVC Supplies (Stourbridge) Ltd
Jason House
Amblecote
West Midlands
DY8 4EY
United Kingdom

Tel: +44 (0)1384 376555
Fax: +44 (0)1384 392555

sales@h-v-c.com

**www.h-v-c.com**

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