



## Grilles & Diffusers

Incorporating



### Series SD / DD / FB Deflection grilles - Single / Double / Fixed blade

- Versatile range of grilles suitable for extract or supply
- Maximum 80% free area
- Single deflection grilles have one bank of individually adjustable blades
- Double deflection grilles have two banks of individually adjustable blades set at 90° to each other
- Fixed blade grilles have one bank of blades set at 0°, 15° or 45°



## Index

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### Overview

3 SD / DD / FB

### SD - Single deflection

4 Product overview and features

5 Technical drawings

### DD - Double deflection

6 Product overview and features

7 Technical drawings

### FB - Fixed blade

8 Product overview and features

9 Technical drawings

### Removable and hinged cores

10 Removable cores

11 Hinged cores

### Further information

12 Fixings

13 Notes

14 Selection data

16 Finish detail and ordering codes

## Quality assurance

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HVC Supplies (Stourbridge) Ltd is an ISO 9001 certified company.



Assessed to ISO 9001  
Cert/Ref No. 1186

## Overview: SD / DD / FB

The deflection range of grilles are a versatile and cost-effective range, available in three models.

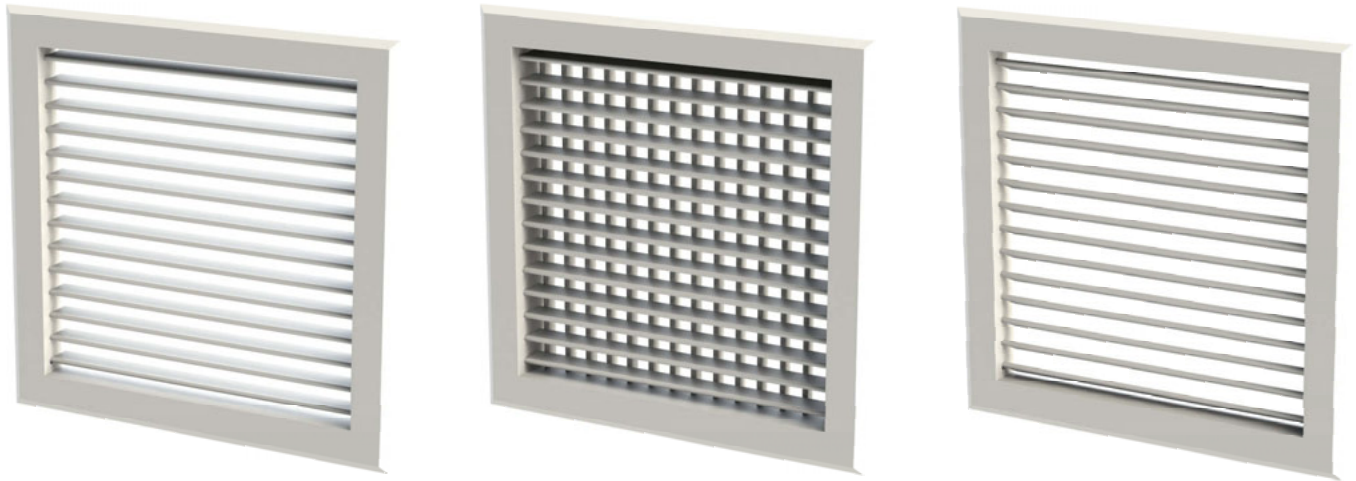
All are manufactured from the same aluminium extrusions for a consistent appearance across the range.

All series are available with hinged or removable cores, and Series SD and FB grilles are also available in a surface mounted frame.

**Single deflection:** A single bank of individually adjustable blades, held in place by high tensile spring wire.

**Double deflection:** Two banks of individually adjustable blades set at 90° to each other, held in place with high tensile spring wire.

**Fixed blade:** A single bank of fixed blades, set at either 0°, 15° or 45°.



## Series SD

A fully adjustable, cost-effective grille, suitable for supply or extract applications.

Single deflection grilles have one bank of fully adjustable blades, which are held in place by high tensile spring wire, hidden behind the grille flange.

With a maximum free area of around 80%, and aerodynamic teardrop shaped blades, single deflection grilles are effective extract grilles, creating minimal noise and pressure drops, even when handling high air volumes.

For supply, aim the blades in one direction for a targeted throw, or spread them for a wide, gentle diffusion.

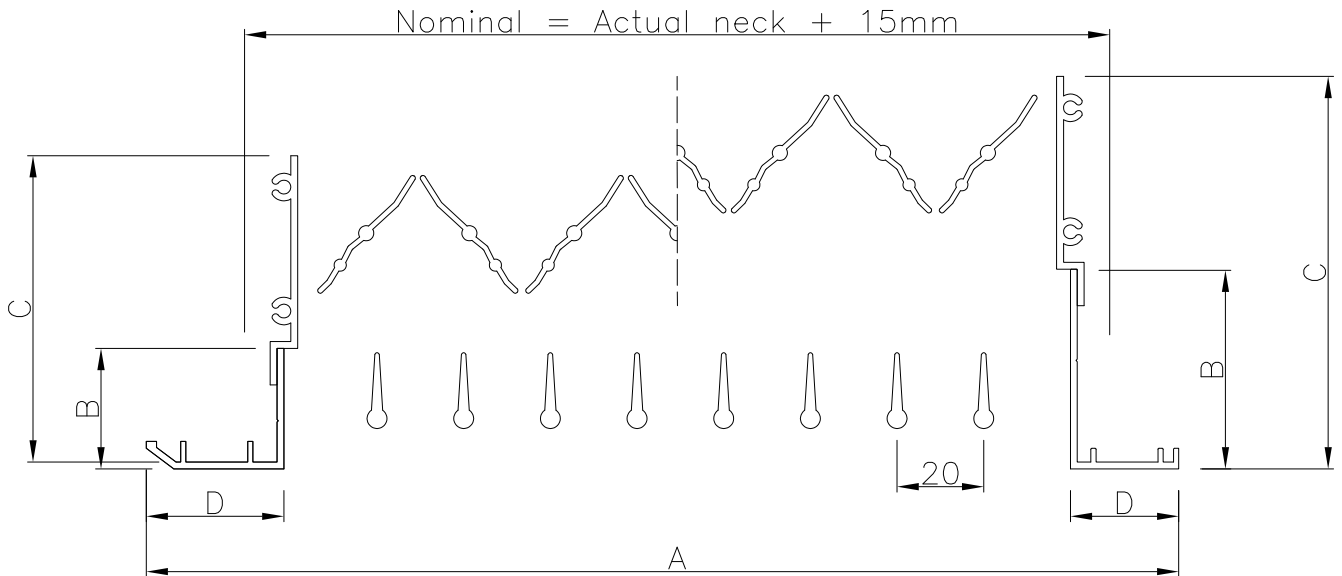


## Design features

|                                     |  |
|-------------------------------------|--|
| <b>Material</b>                     | Extruded aluminium frame and blades<br>High tensile steel wire   |
| <b>Frame</b>                        | Standard: 32BS - 32mm bevelled small<br>Optional: 25F - 25mm flat<br>SML - Surface mounted                           |
| <b>Sizes</b>                        | Minimum: 100mm x 50mm<br>Maximum: 2900mm x 2900mm<br>Maximum blade length is 570mm, above this mullions will be used |
| <b>Fixings</b>                      | Standard: None<br>Optional: See page 11  |
| <b>Finish</b>                       | Standard: Satin anodised (AA5)<br>Optional: See page 8   |
| <b>Mass/m<sup>2</sup> face area</b> | 8.5kg<br>16.5kg including opposed blade damper   |
| <b>Free area</b>                    | Approx 80% maximum   |

## Technical drawings

### Standard

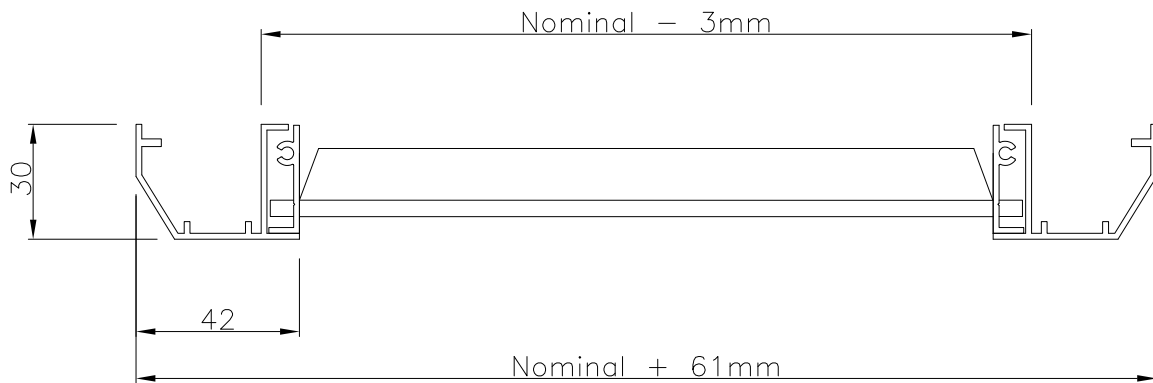


| 32BS: 32mm bevelled small |                |
|---------------------------|----------------|
| A                         | Nominal + 45mm |
| B                         | 28mm           |
| C                         | 72mm           |
| D                         | 32mm           |

| 25F: 25mm flat |                |
|----------------|----------------|
| A              | Nominal + 30mm |
| B              | 46mm           |
| C              | 90mm           |
| D              | 25mm           |

**Please note:** Blade pins stick out approximately 6mm from the grille neck each side.

### Surface mounted

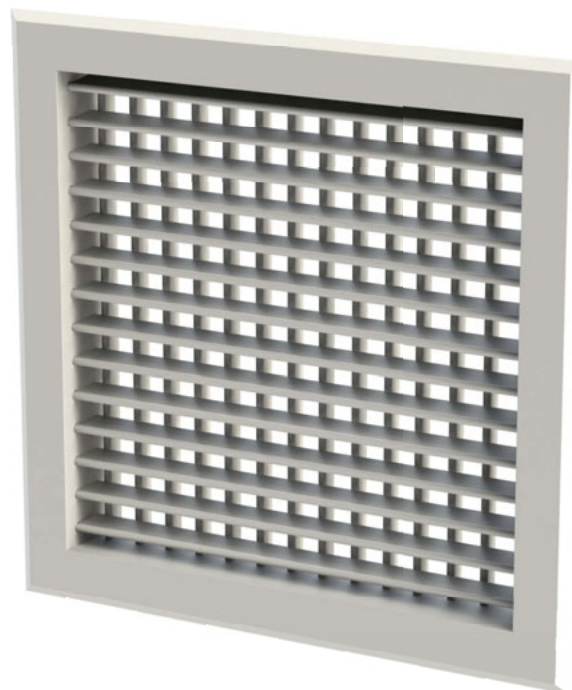


## Series DD

With two banks of individually adjustable blades, Series DD double deflection grilles allow further control over throw than Series SD single deflections.

Blades are secured with high tensile spring wire, which provides enough force to keep them in their assigned position, while also allowing easy manual adjustment.

The maximum free area of 80% is identical to that of single deflection grilles, however noise generation and pressure drops are slightly higher, making Series DD double deflection grilles more suitable for supply applications.

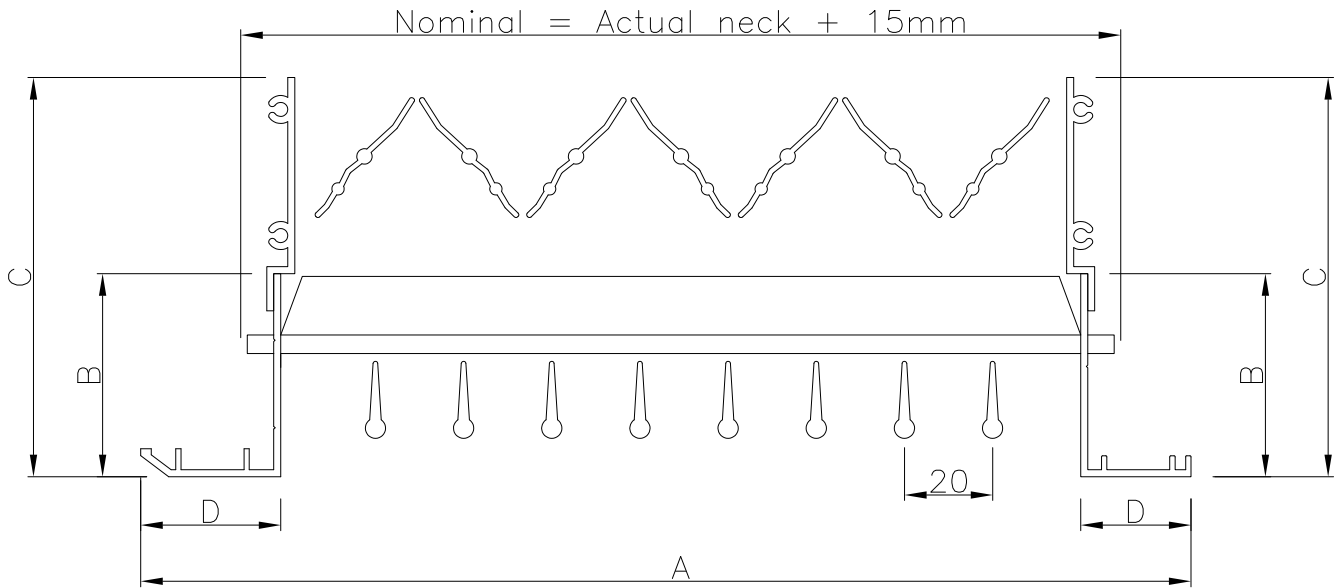


## Design features

|                                     |   |
|-------------------------------------|---|
| <b>Material</b>                     | Extruded aluminium frame and blades<br>High tensile steel wire  |
| <b>Frame</b>                        | Standard: 32BD - 32mm bevelled large<br>Optional: 25F - 25mm flat   |
| <b>Sizes</b>                        | Minimum: 100mm x 50mm<br>Maximum: 2900mm x 2900mm<br>Maximum blade length is 570mm, above this mullions will be used<br>Unless requested, the front set of blades will run horizontally, with the rear set running vertically |
| <b>Fixings</b>                      | Standard: None<br>Optional: See page 11   |
| <b>Finish</b>                       | Standard: Satin anodised (AA5)<br>Optional: See page 8  |
| <b>Mass/m<sup>2</sup> face area</b> | 14.5kg<br>22.5kg including opposed blade damper   |
| <b>Free area</b>                    | Approx 80% maximum  |

## Technical drawings

### Standard



| 32BD: 32mm bevelled large |                |
|---------------------------|----------------|
| A                         | Nominal + 45mm |
| B                         | 46mm           |
| C                         | 90mm           |
| D                         | 32mm           |

| 25F: 25mm flat |                |
|----------------|----------------|
| A              | Nominal + 30mm |
| B              | 46mm           |
| C              | 90mm           |
| D              | 25mm           |

**Please note:** Blade pins stick out approximately 6mm from the grille neck each side.

## Series FB

Fixed blade grilles are the same as Series SD single deflection grilles except the blades are fixed at either 0°, 15° or 45°.

Specified with 0° blades, the high free area and aerodynamic blade design make this a very effective extract unit with minimal noise generation and pressure drops.

Should you not require an adjustable throw, fixed blade grilles will often give a tidier appearance than single deflections since the blades cannot be set at different angles to each other.



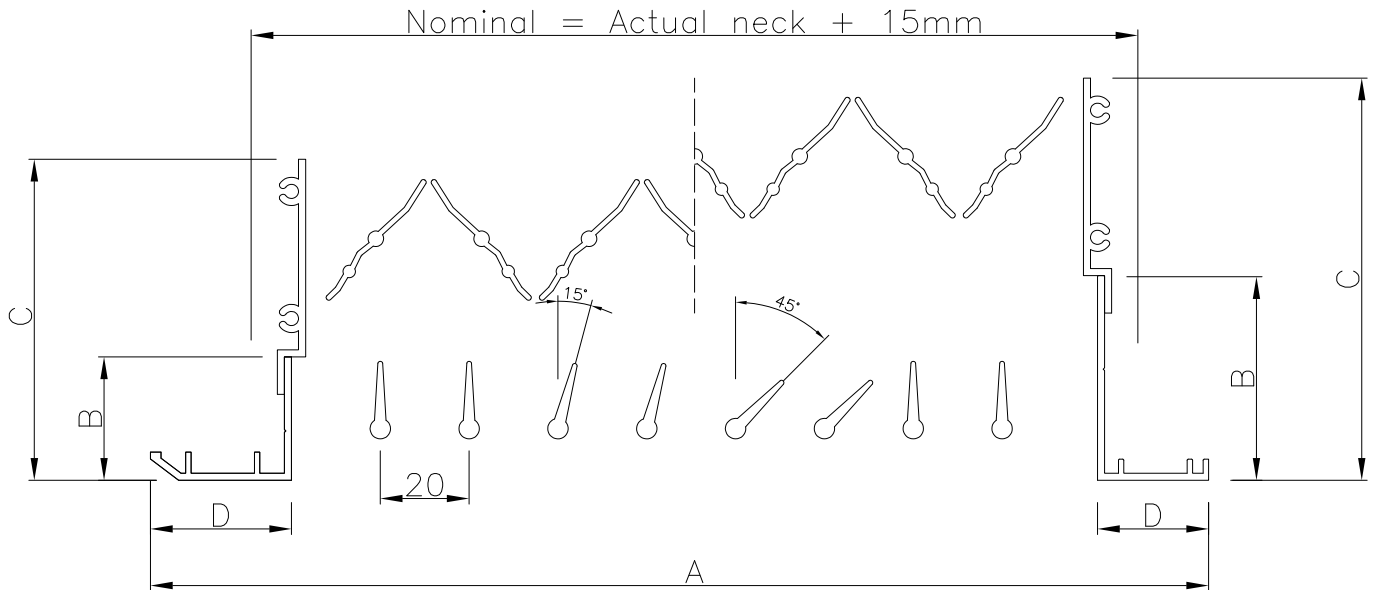
## Design features

|                                     |  |
|-------------------------------------|--|
| <b>Material</b>                     | Extruded aluminium frame and blades<br>High tensile steel wire   |
| <b>Frame</b>                        | Standard: 32BS - 32mm bevelled small<br>Optional: 25F - 25mm flat<br>SML - Surface mounted                           |
| <b>Sizes</b>                        | Minimum: 100mm x 50mm<br>Maximum: 2900mm x 2900mm<br>Maximum blade length is 570mm, above this mullions will be used |
| <b>Fixings</b>                      | Standard: None<br>Optional: See page 11  |
| <b>Finish</b>                       | Standard: Satin anodised (AA5)<br>Optional: See page 8   |
| <b>Mass/m<sup>2</sup> face area</b> | 8.5kg<br>16.5kg including opposed blade damper   |
| <b>Free area</b>                    | Approx 80% with FB0  |



## Technical drawings

### Standard

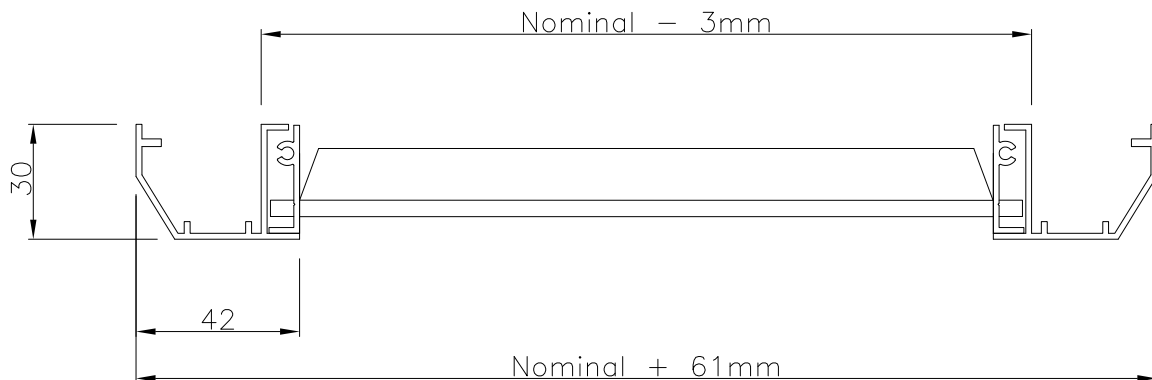


| 32BS: 32mm bevelled small |                |
|---------------------------|----------------|
| A                         | Nominal + 45mm |
| B                         | 28mm           |
| C                         | 72mm           |
| D                         | 32mm           |

| 25F: 25mm flat |                |
|----------------|----------------|
| A              | Nominal + 30mm |
| B              | 46mm           |
| C              | 90mm           |
| D              | 25mm           |

**Please note:** Blade pins stick out approximately 6mm from the grille neck each side.

### Surface mounted



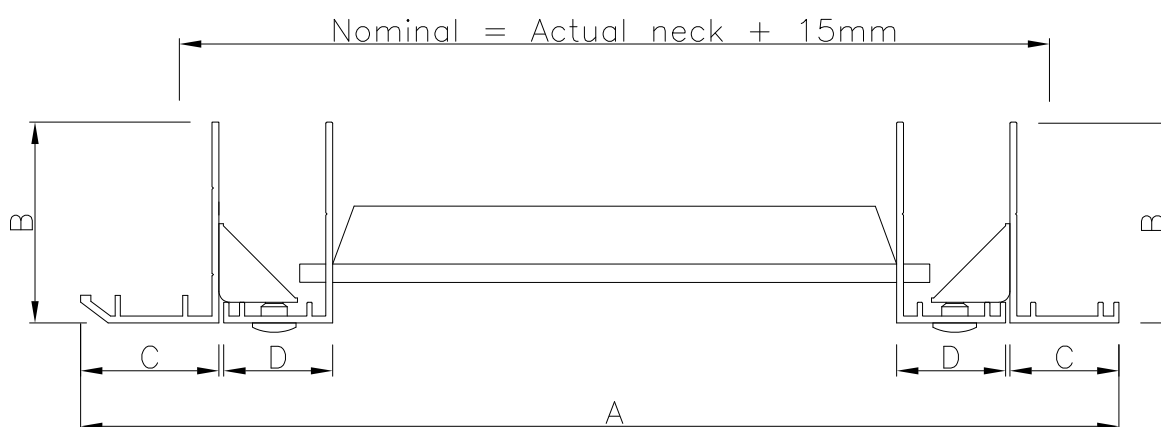
## Removable core

Fitted with spring loaded quarter turn fasteners, the outer frame has angle brackets fixed to the inside of the neck.

The inner removable frame holds the chrome plated, slotted head studs, for removal with a flathead screwdriver.

Other stud types are available for use with allen keys, or with a larger head for removal by hand.

Ordering code for type shown here: RC-QT



### 32BD: 32mm bevelled large (standard)

|   |                |
|---|----------------|
| A | Nominal + 45mm |
| B | 46mm           |
| C | 32mm           |
| D | 25mm           |

### 25F: 25mm flat (optional)

|   |                |
|---|----------------|
| A | Nominal + 30mm |
| B | 46mm           |
| C | 25mm           |
| D | 25mm           |

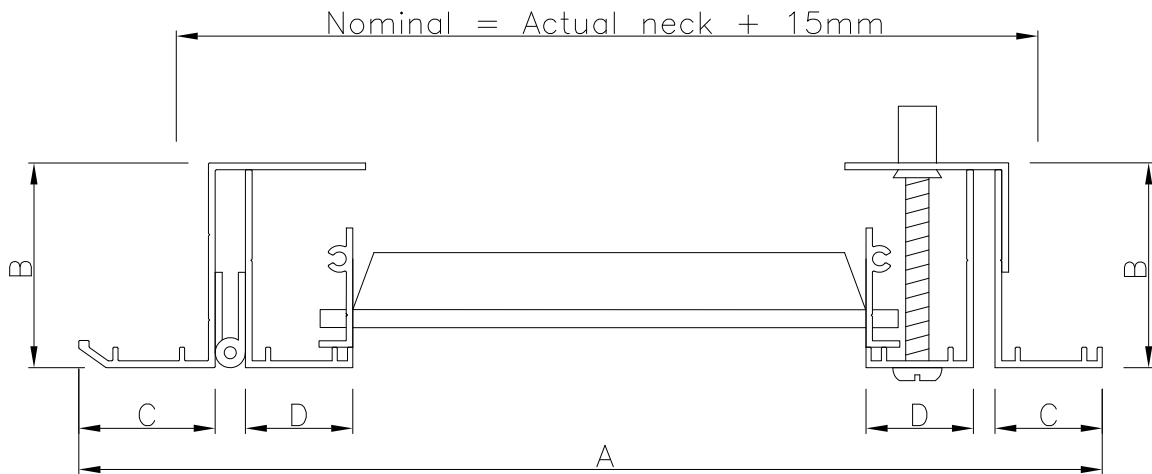
## Hinged core

Enabling the core to hinge outwards may be preferable to it being fully removable.

The full length piano hinge at one side is discreet, and gives minimal loss of core area.

The inner core is held in place by a chrome plated cam fastener as standard, bolts are optional.

Ordering code for type shown here: HC-BLT



| 32BD: 32mm bevelled large (standard) |                |
|--------------------------------------|----------------|
| A                                    | Nominal + 45mm |
| B                                    | 47mm           |
| C                                    | 32mm           |
| D                                    | 25mm           |

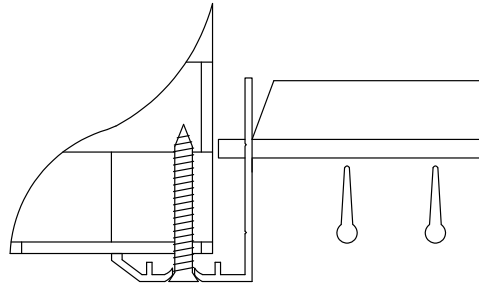
| 25F: 25mm flat (optional) |                |
|---------------------------|----------------|
| A                         | Nominal + 30mm |
| B                         | 47mm           |
| C                         | 25mm           |
| D                         | 25mm           |

## Fixings

### Countersunk fixing holes: Code suffix FH

For extremely simple fitting, countersunk fixing holes can be punched into the outer frame.

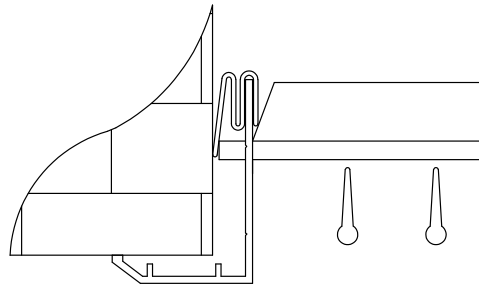
Self tapping screws in the same finish as the grille are provided as standard.



### Push-in clip method: Code suffix PC

These sprung clips are compressed when the grille is pushed into place. The outward force provided then holds the grille securely in place.

**This fixing method is not suitable for use in ceilings.**

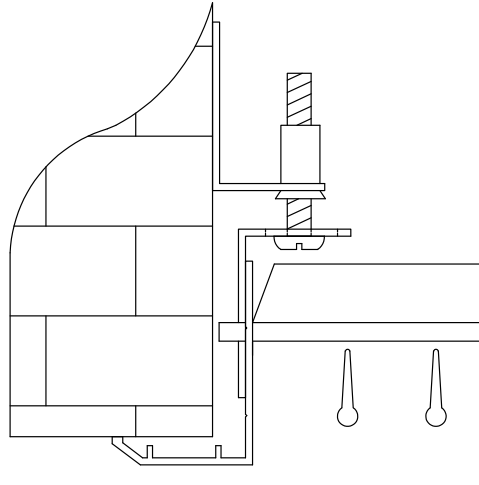


### Concealed fixings: Code suffix CF

Recently redesigned, concealed fixings comprise two small lengths of aluminium angle, one with a punched slot, the other with a factory fitted nutsert.

The punched bracket should be fitted to the grille neck, and the bracket with nutsert fixed to the inside of the plenum, duct or builderswork opening.

Factory supplied bolts can then be used to pull the grille securely into place.

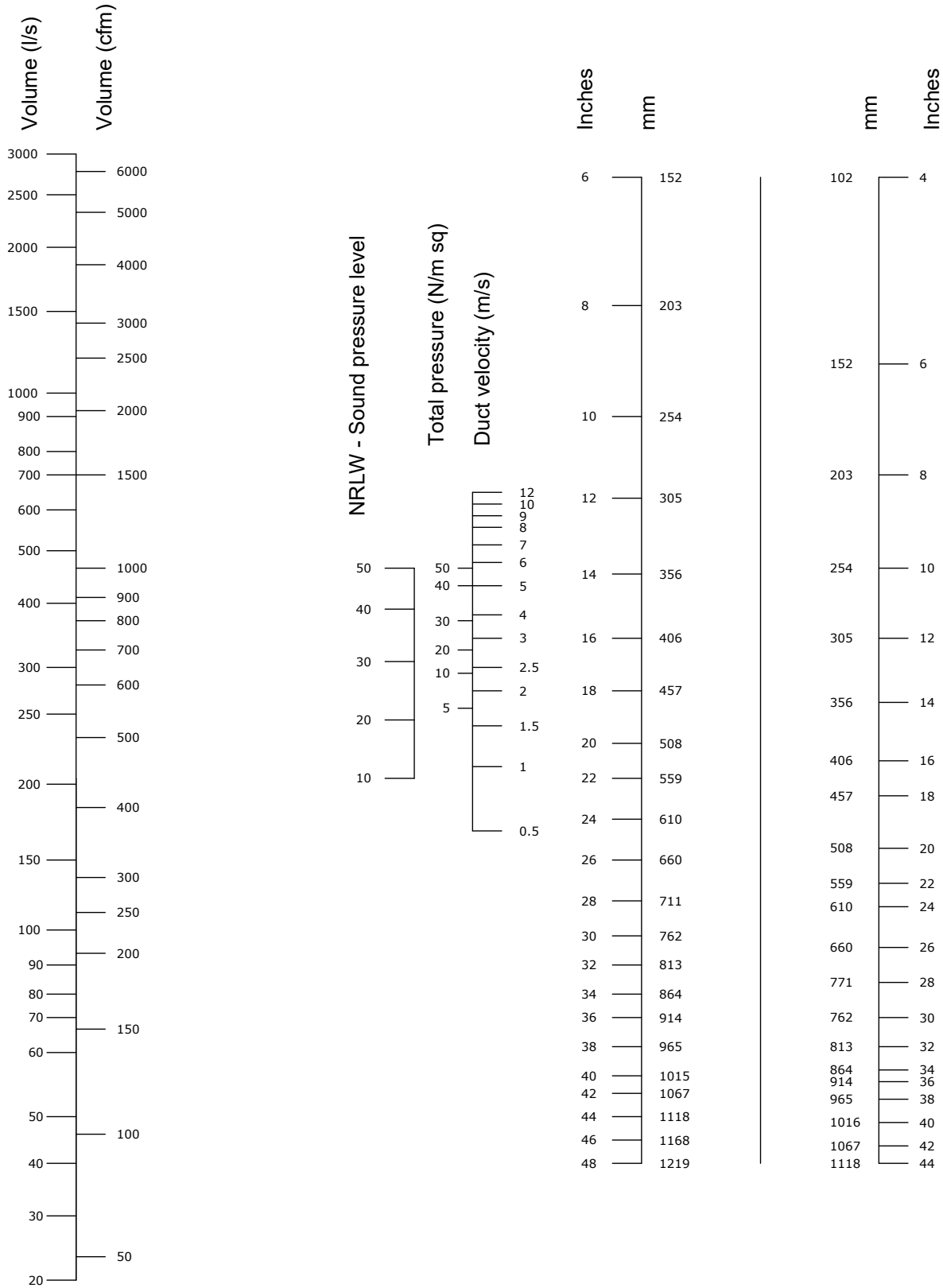




## Notes

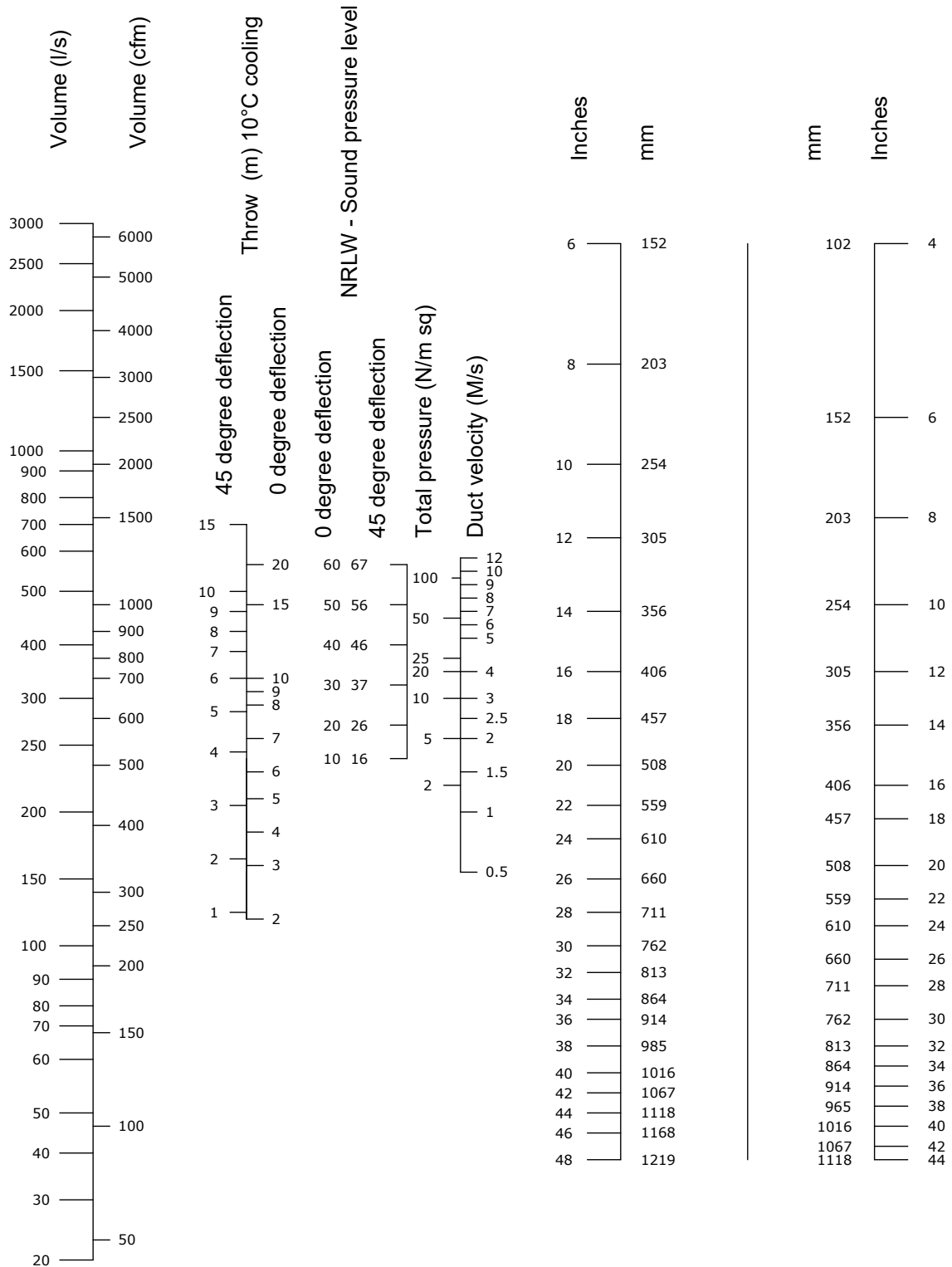
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Selection data: SD & FB (extract application)



When using an SD grille for supply, refer to DD nomogram for figures.  
Sound power & pressure levels are based upon exhaust air with dampers fully open. Without dampers subtract 2dB and multiply total pressure by 0.9.

Selection data: DD. Also SD and FB (supply application)



Throw values based on grilles mounted in sidewall not more than 1m below an unrestricted ceiling.  
 For grilles positioned more than 1m below an unrestricted ceiling, reduce throw values by 25%.  
 Sound power & pressure levels are based upon supply air with dampers fully open. Without dampers subtract 2dB and multiply total pressure by 0.9.  
 Throw values based on a 10°C cooling application. For isothermal applications, increase throw values by 25%.

## Finish

Satin anodised (AA5) - Standard

Mill aluminium

Polyester powder coating to any RAL or BS colour



## Ordering codes

### Example

1 - 400 x 400 - DD - D - 32BD - FH - RAL9010

### Codes

|    |                  |                                 |  |
|----|------------------|---------------------------------|--|
| 1) | <b>Quantity</b>  |                                 |  |
| 2) | <b>Size (mm)</b> | (Width x height)                |  |
| 3) | <b>Series</b>    | SD<br>DD<br>FB0<br>FB15<br>FB45 | Single deflection grille<br>Double deflection grille<br>Fixed blade grille - 0°<br>Fixed blade grille - 15°<br>Fixed blade grille - 45°  |
| 4) | <b>Damper</b>    | D                               | Opposed blade damper fitted  |
| 5) | <b>Frame</b>     | 32BS<br>32BD<br>25F<br>SML      | 32mm bevelled small (standard with SD and FB, not available with DD)<br>32mm bevelled large (standard with DD, not available with SD or FB)<br>25mm flat<br>Surface mounted (not available with DD)              |
| 6) | <b>Fixings</b>   | FH<br>CF<br>PC                  | Countersunk fixing holes (screws supplied in same finish)<br>Concealed fixings (not suitable for grilles with 'SML' frame)<br>Push-in clips (not for use in ceilings, not suitable for grilles with 'SML' frame) |
| 7) | <b>Core type</b> | RC-QT<br>HC-BLT<br>HC-CAM       | Removable core - Quarter turn type (standard method)<br>Hinged core - Bolt type (standard method)<br>Hinged core - Cam fastener (optional)   |
| 8) | <b>Finish</b>    | SAA<br>Mill<br>RAL...<br>BS...  | Satin anodised (standard)<br>Mill aluminium<br>Polyester powder coated to RAL...<br>Polyester powder coated to BS...   |

Leave code section blank if no option is required.

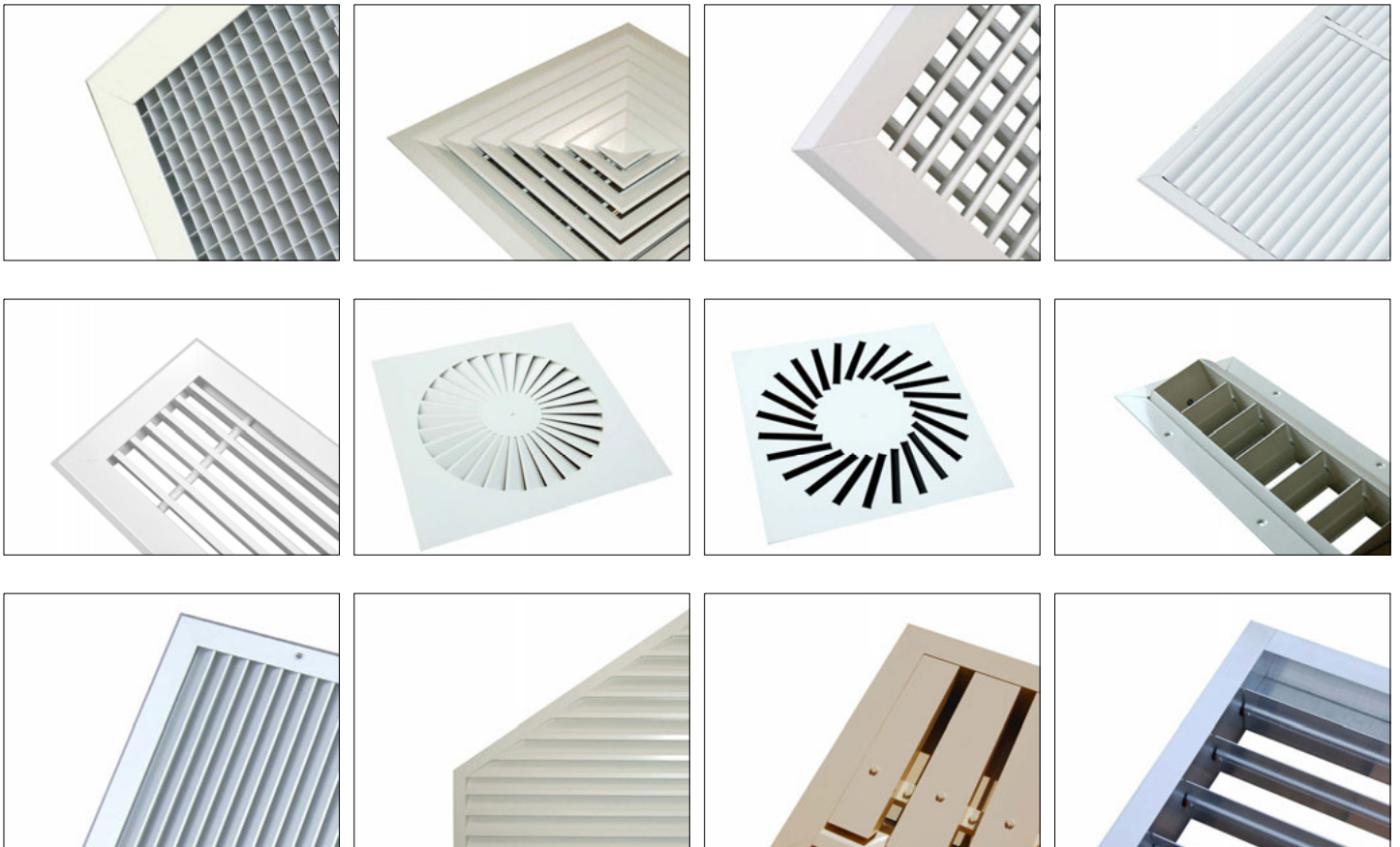


## HVC & NCA products

HVC offer 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](http://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

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