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ISO 9001 CERTIFIED COMPANY



# GRILLES AND REGISTERS



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Cover Page Photo

Al Biddah Tower, Doha, Qatar.

### CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

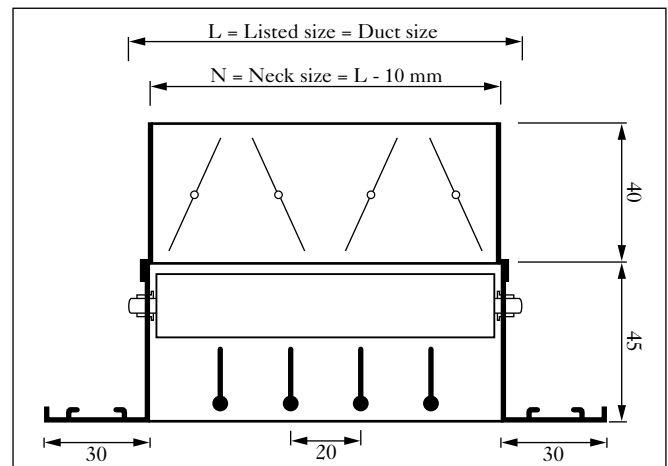
**Blade spacing:** 20 mm as standard.

**Damper frame and blades:** High quality extruded aluminium profiles with natural aluminium finish. Black matt finish as option.



### Description:

- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.
- Grilles have two sets parallel aerofoil blades with one set mounted horizontally on the front and other set vertically at the rear.
- Frame is separated from aerofoil deflection blades by nylon bushings. This method of assembly ensures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually, to provide air deflection in both horizontal and vertical planes.
- Grilles are rigidly fixed with opposed blade damper by grippers. Damper blade is screw operated from the face opening.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.



### Standard finishes:

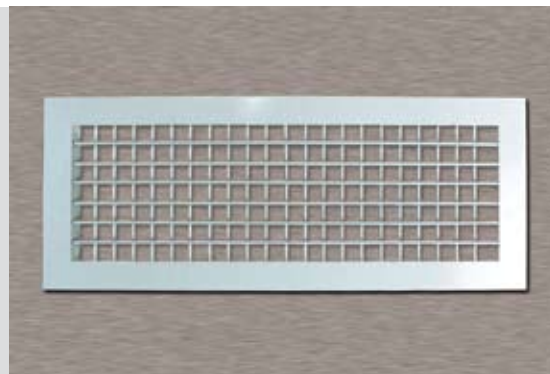
- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

**DOUBLE DEFLECTION GRILLE**  
FRONT HORIZONTAL
**air master**  
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**CONSTRUCTION:**

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

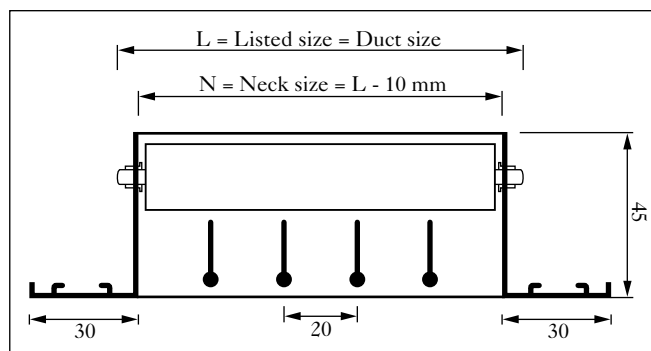
**Blade spacing:** 20 mm as standard.

**Description:**

- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.
- Grilles have two sets parallel aerofoil blades with one set mounted horizontally on the front and other set vertically at the rear.
- Frame is separated from aerofoil deflection blades by nylon bushings. This method of assembly ensures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually, to provide air deflection in both horizontal and vertical planes.
- Maximum effective pressure areas can be achieved when the blades are positioned at 0° position.

**Standard finishes:**

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.



## CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

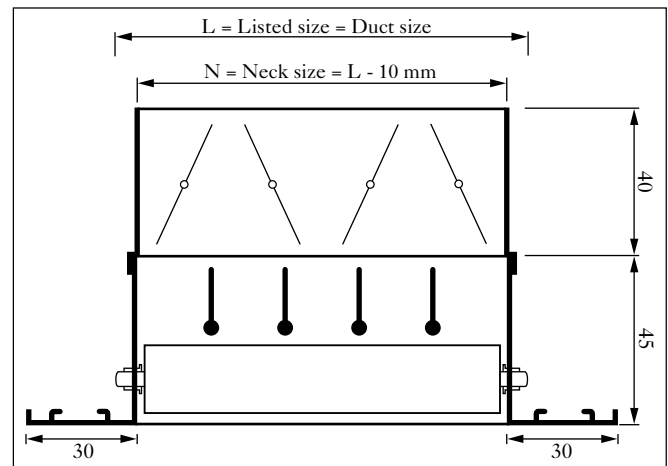
**Blade spacing:** 20 mm as standard.

**Damper frame and blades:** High quality extruded aluminium profiles with natural aluminium finish. Black matt finish as option.



## Description:

- The frame and blades are of high quality extruded aluminum profiled construction with the advantage of corrosion resistance and rigidity.
- Grilles have two sets parallel aerofoil blades with one set mounted vertically on the front and other set horizontally at the rear.
- Frame is separated from aerofoil deflection blades by nylon bushings. This method of assembly ensures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually, to provide air deflection in both horizontal and vertical planes.
- Grilles are rigidly fixed with opposed blade damper by grippers. Damper blade is screw operated from the face opening.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.



## Standard finishes:

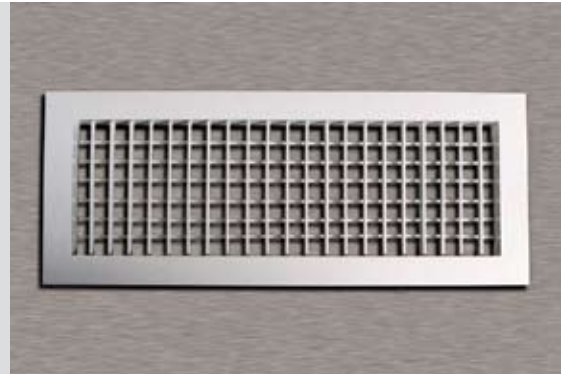
- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

**DOUBLE DEFLECTION GRILLE**  
FRONT VERTICAL
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**CONSTRUCTION:**

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

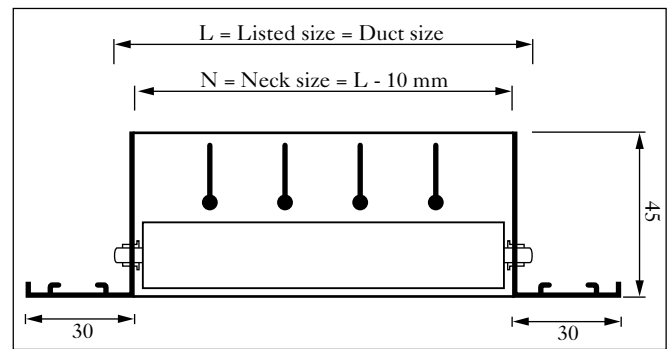
**Blade spacing:** 20 mm as standard.

**Description:**

- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.
- Grilles have two sets parallel aerofoil blades with one set mounted vertically on the front and other set horizontally at the rear.
- Frame is separated from aerofoil deflection blades by nylon bushings. This method of assembly ensures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually, to provide air deflection in both horizontal and vertical planes.
- Maximum effective pressure areas can be achieved when the blades are positioned at 0° position.

**Standard finishes:**

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

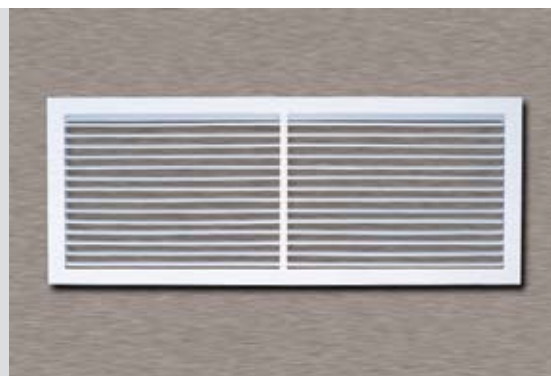


## CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

**Blade spacing:** 20 mm as standard.



## Description:

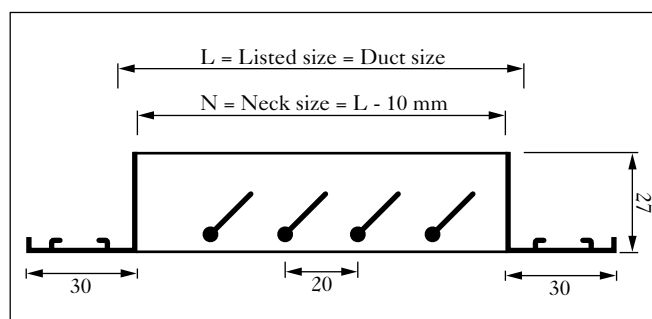
- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.
- Deflection blades are fixed rigidly to the frame at an angle of 45° to the horizontal plane.

## Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

## Model:

**ARR-H:** Return air register with fixed horizontal blades. Construction is same as ARG-H with opposed blade damper.



# SINGLE DEFLECTION GRILLE

## ADJUSTABLE BLADES

model: **ARG-HA, ARG-V**



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### CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

**Blade spacing:** 20 mm as standard.

### Description:

- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.
- Frame is separated from the aerofoil deflection blades with nylon bushings. This method of assembly assures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually in the horizontal plane to obtain optimum air distribution.
- Maximum effective pressure areas can be achieved when the blades are positioned at 0° horizontal position.

### Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

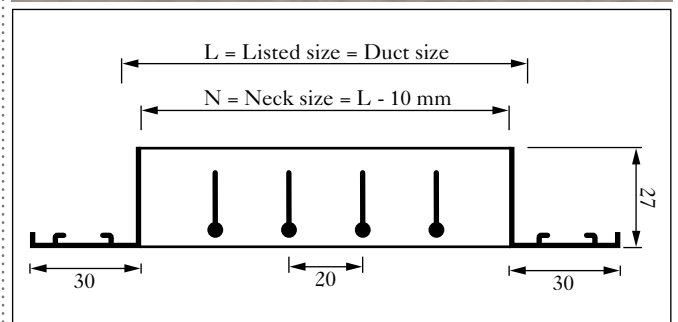
### Models:

**ARR-HA:** Return air register with adjustable horizontal blades. Construction is same as ARG-HA, with opposed blade damper.

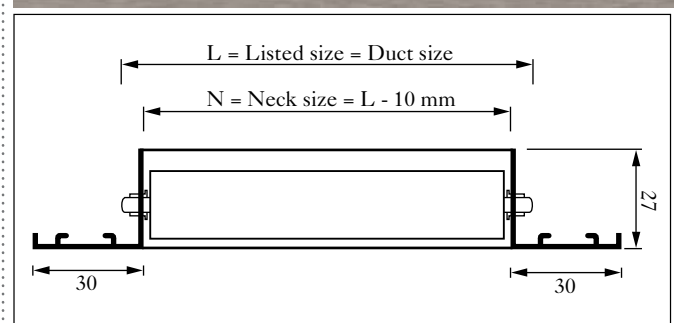
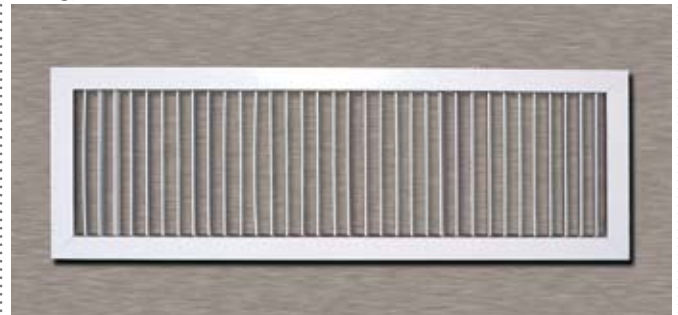
**ARG-V:** Construction same as ARG-HA, with adjustable vertical blades.

**ARR-V:** Return Air register with adjustable vertical blades.

### ARG-HA



### ARG-V



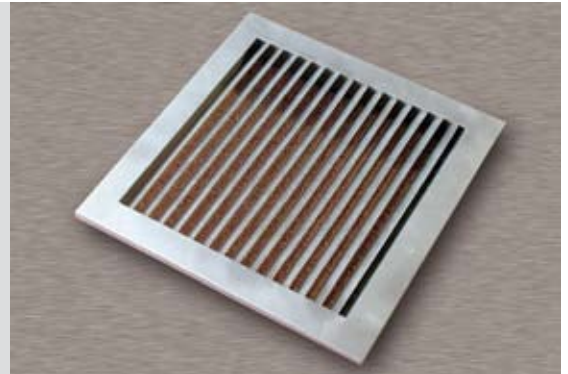


### CONSTRUCTION:

**Frame:** 1.2mm thick Galvanized steel sheet with 30 mm flange width as standard. 12, 20, 24 mm flange widths optional..

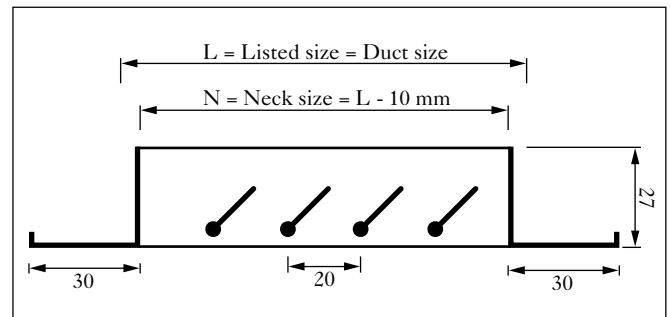
**Blades:** Galvanized steel blades of 1mm upto 3mm thick.

**Blade spacing:** 20 mm as standard.



### Description:

- The frame is made from a single Galvanized steel sheet to give seamless joints without any welding involved.
- The blade made out of galvanized sheets is welded to the frame. Welded areas are rust proofed by zinc paint coating.
- Blades are fixed to the frame at 45° to the horizontal plane. 0° is optional.



### Applications:

- Smoke extract, car park ventilation.
- Heavy duty applications such as stadiums, gymnasiums and swimming pool areas.

### Standard finishes:

- Natural GI finish.
- Powder coated colour finish as per RAL colour codes.



### Stainless Steel Grille:

S.S grille, manufactured from grade 316, can be used in offshore applications, chemical facilities, waste treatment, sewage treatment plants and all the application of G.I grille.



### CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 12, 20, 24 mm flange widths are optional.

**Blades:** Aerofoil blades from aluminium profiles.

**Blade spacing:** 20 mm as standard.

**Filter frame:** 1 mm thick aluminium sheet.

**Filter media:** Aluminium mesh.



### Description:

- The frame and blades are of high quality extruded aluminum profiled construction with the advantages of corrosion resistance and rigidity.

- Deflection blades are fixed rigidly to the frame at an angle of 45° to the horizontal plane.

- Removable 12 mm thick aluminium washable filter is placed at the back of the grille.

- Grille frame is fixed to the main frame by
  - 1) Hinges on one side and screw on the other side.
  - 2) Pushing the snap-in type grille frame using spring clip.

- Filter can be removed easily by opening the grille frame.

- Total assembly will be same as ARG-H, with removable 12 mm thick aluminium filter.

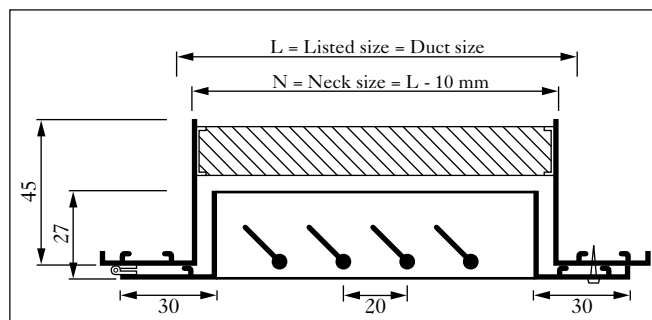
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.

### Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

### Model:

**AFAR:** Fresh air register with fixed horizontal blades. Construction is same as AFAG, with opposed blade damper.



## UNIVERSAL GRILLE

model: **AUG**

### CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 30 mm flange width as standard. 24 mm flange width as optional.

**Blades:** Aerofoil blades from aluminium profiles.

**Blade spacing:** 20 mm as standard.

**Damper frame and blades:** High quality extruded aluminium profiles with natural aluminium finish. Black matt finish as option.



### Description:

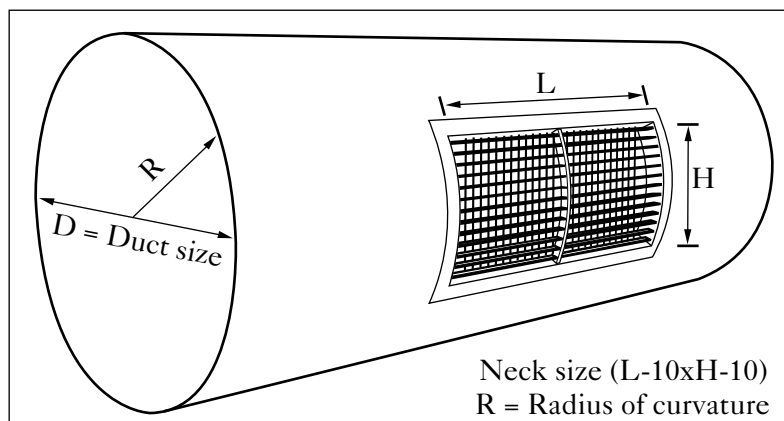
- This grille is specifically designed for direct mounting on rigid round duct, with a curved face.
- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Grilles have two sets of parallel aerofoil blades with one set mounted horizontally on the front and other set vertically at the rear.
- Frame is separated from the aerofoil deflection blades by nylon bushings. This method of assembly ensures quiet, smooth and rattle free operation.
- Deflection blades can be adjusted manually and individually, to provide air deflection in both horizontal and vertical planes.
- Grilles are rigidly fixed with opposed blade damper by grippers. Damper blade is screw operated from the face opening.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.

### Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

### Air flow data:

The datas can be taken from the table 2.1 provided for normal grilles.



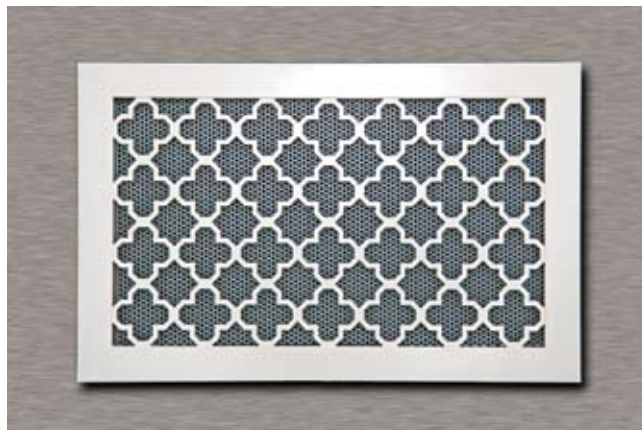


## INTRODUCTION:

The application of AIR MASTER grilles has been extended from the comfort conditioning field to the aesthetic aspects of the environment they are used. AIR MASTER has developed a new generation of grilles, which can be adopted for any professional areas with aesthetic preference.

AIR MASTER decorative grilles are designed for modern interior layouts and guaranteed for an unparalleled beauty and brilliance backed up with perfect technology.

So, eventually it serves the dual purpose of interior decoration and air conditioning on its own. The decorative grilles are manufactured and supplied at affordable prices.



## CONSTRUCTION:

**Frame:** High quality extruded aluminium profile with 25mm flange width as standard and 12, 30mm flange widths as optional.

**Core:** Core is made up of aluminium sheet, machined to the desired design patterns required by the customer.

**Damper frame and blades:** High quality extruded aluminium profiles with black matt finish. Natural aluminium finish as option.



## Description:

- The frame is of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- The core will be the heart of the decorative grille and it is pressed aluminium sheet 3 mm thickness as standard. The required designs are cut by using the most advanced laser technology.
- The decorative grilles are rigidly fixed with opposed blade damper by grippers. Damper blade is operated from the face opening.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.

## DECORATIVE GRILLES

model: **AMDG**

### Standard finishes:

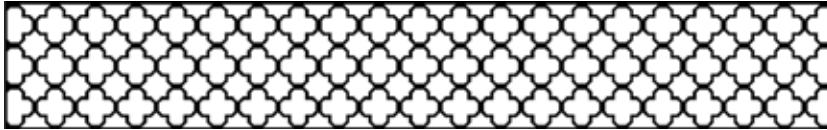
- Natural aluminium anodized finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

### Standard finishes:

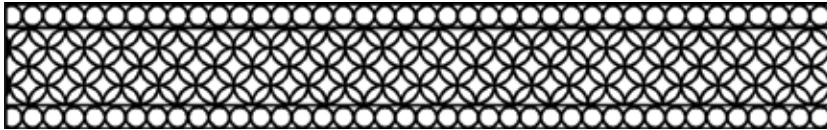
- Free area mainly depends on the design pattern of core / grille. The same can be provided on request.
- Fixing methods are same as our normal grilles either by screws or concealed clips.
- These decorative grilles can be fixed on ceilings or wall.

### Decorative Grille Patterns:

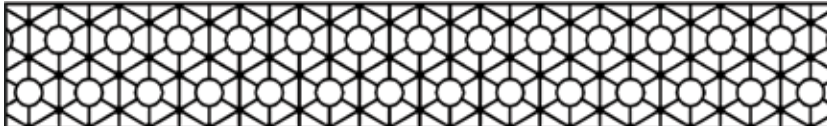
**AMDG1**



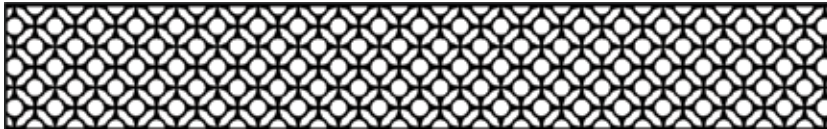
**AMDG2**



**AMDG3**



**AMDG4**



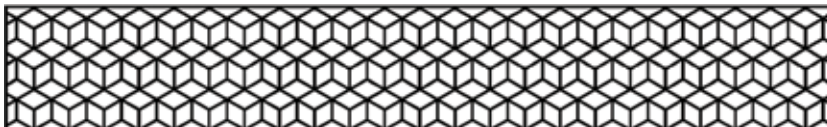
**AMDG5**



**AMDG6**

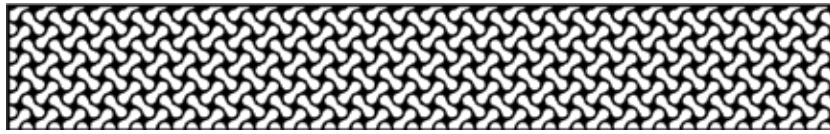


**AMDG7**





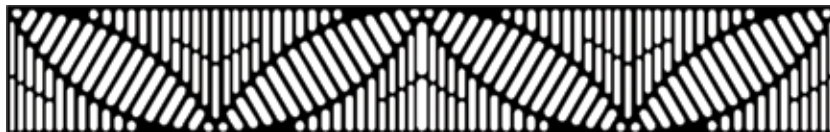
**AMDG8**



**AMDG9**



**AMDG10**



## Mullion arrangement:

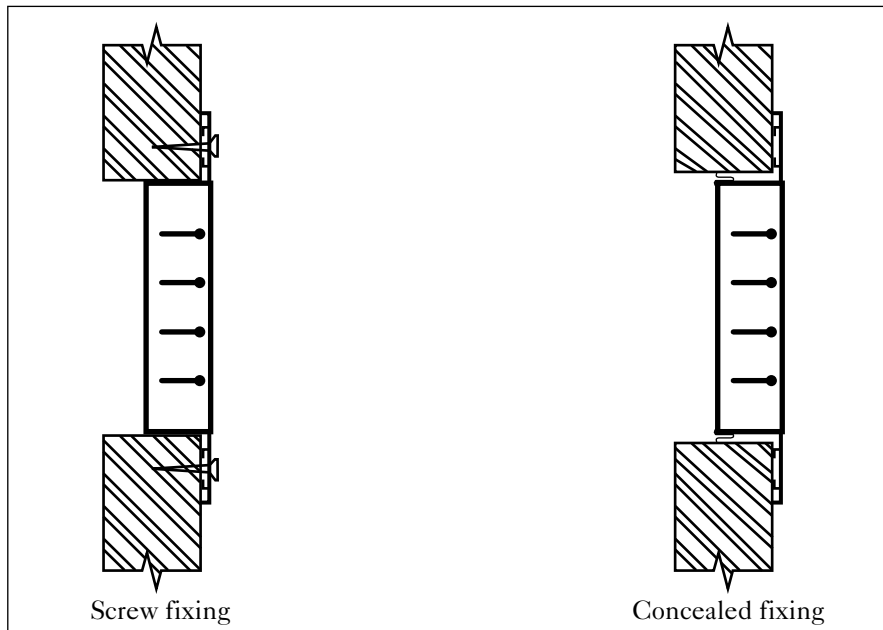
- **Mullion:** Aluminium profiled U-channel.
- If the length of the grille is above 500 mm, horizontal aerofoil blades are connected through a mullion, fixed at the centre of the grille for stability.
- For grilles of length 1000 mm and above, two mullions will be connected vertically at equidistant.



## Standard sizes:

- Available in square and rectangular sizes.
- All combination of W x H (in mm).
- Non standard sizes are available as option.

| WxH<br>(in mm) | WxH<br>(in mm) | WxH<br>(in mm) | WxH<br>(in mm) | WxH<br>(in mm) |
|----------------|----------------|----------------|----------------|----------------|
| 150 x 150      | 300 x 200      | 400 x 150      | 500 x 150      | 650 x 100      |
| 200 x 100      | 300 x 250      | 400 x 200      | 500 x 200      | 700 x 250      |
| 200 x 125      | 300 x 300      | 400 x 250      | 500 x 250      | 750 x 100      |
| 200 x 150      | 350 x 125      | 400 x 300      | 500 x 300      | 750 x 150      |
| 250 x 100      | 350 x 150      | 400 x 400      | 500 x 350      | 750 x 200      |
| 250 x 125      | 350 x 200      | 450 x 100      | 500 x 400      | 750 x 250      |
| 250 x 150      | 350 x 250      | 450 x 150      | 600 x 125      | 900 x 150      |
| 250 x 200      | 350 x 300      | 450 x 200      | 600 x 150      | 900 x 200      |
| 250 x 250      | 350 x 350      | 450 x 450      | 600 x 200      | 1000 x 200     |
| 300 x 100      | 400 x 100      | 500 x 100      | 600 x 250      | 1200 x 150     |
| 300 x 125      | 400 x 125      | 500 x 125      | 600 x 300      |                |

**Fixing details:****Product summary:**

| Model Number      | Product Description              | Remarks                      |
|-------------------|----------------------------------|------------------------------|
| <b>ASG-H</b>      | Double deflection grille         | Front horizontal blades      |
| <b>ASG-V</b>      |                                  | Front vertical blades        |
| <b>ASR-H</b>      | Double deflection register       | Front horizontal blades      |
| <b>ASR-V</b>      |                                  | Front vertical blades        |
| <b>ARG-V</b>      | Single deflection grille         | Vertical blades              |
| <b>ARG-H</b>      |                                  | Fixed horizontal blades      |
| <b>ARG-HA</b>     |                                  | Adjustable horizontal blades |
| <b>ARR-V</b>      | Single deflection register       | Vertical blades              |
| <b>ARR-H</b>      |                                  | Fixed horizontal blades      |
| <b>ARR-HA</b>     |                                  | Adjustable horizontal blades |
| <b>AMDG</b>       | Decorative grille                |                              |
| <b>ARG-H (GI)</b> | Single deflection grille (GI/SS) | Fixed horizontal blades      |
| <b>AFAG</b>       | Fresh Air grille                 |                              |
| <b>AFAR</b>       | Fresh Air register               |                              |
| <b>AUG</b>        | Universal Grille                 |                              |

**Product order checklist:**

- Model number - please refer product summary above.
- Size
- Colour (RAL 9010, 9016, Anodised aluminium finish or other RAL colours)
- Quantity
- Fixing details



**Table 2.1 Air flow data**

| CFM                 | Listed<br>Size in<br>mm x mm       | 200 x 100 |         | 250 x 100 |         | 200 x 150 |         | 250 x 150 |         | 300 x 150 |         |
|---------------------|------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
|                     |                                    | 200 x 100 |         | 200 x 125 |         | 250 x 125 |         | 300 x 125 |         | 350 x 125 |         |
| M <sup>3</sup> /sec | Area factor<br>Deflection          | 0.0191    | 0.0093  | 0.0199    | 0.0102  | 0.0214    | 0.0113  | 0.0246    | 0.0142  | 0.0269    | 0.0169  |
|                     |                                    | 0°        | 45°     | 0°        | 45°     | 0°        | 45°     | 0°        | 45°     | 0°        | 45°     |
| 100<br>0.0472       | Face vel.                          | 2.47      | 5.08    | 2.37      | 4.63    | 2.21      | 4.18    | 1.92      | 3.32    |           |         |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 0.43      | 1.45    | 0.35      | 1.22    | 0.33      | 1.04    | 0.23      | 0.69    |           |         |
|                     | Throw in (M)                       | 4.2-5.4   | 2.7-4.8 | 3.9-5.5   | 3.0-4.9 | 3.9-5.2   | 3.0-4.9 | 4.0-5.2   | 2.7-4.6 |           |         |
|                     | N.C                                | 15        | 19      | <15       | 16      | <15       | <15     | <15       | <15     |           |         |
| 150<br>0.0708       | Face vel.                          | 3.71      | 7.61    | 3.56      | 6.94    | 3.31      | 6.27    | 2.87      | 4.98    | 2.63      | 4.19    |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 0.99      | 3.23    | 0.78      | 2.72    | 0.74      | 2.31    | 0.53      | 1.55    | 0.46      | 1.07    |
|                     | Throw in (M)                       | 4.9-6.4   | 3.6-5.8 | 4.6-6.1   | 3.7-5.5 | 4.3-6.1   | 3.7-5.2 | 4.3-6.1   | 3.4-5.2 | 4.0-5.8   | 3.4-4.9 |
|                     | N.C                                | 18        | 24      | 16        | 21      | <15       | 16      | <15       | <15     | <15       | <15     |
| 200<br>0.0945       | Face vel.                          | 4.95      | 10.16   | 4.75      | 9.26    | 4.42      | 8.36    | 3.84      | 6.65    | 3.51      | 5.59    |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 1.77      | 5.76    | 1.39      | 4.88    | 1.3       | 4.12    | 0.94      | 2.77    | 0.81      | 1.88    |
|                     | Throw in (M)                       | 5.2-7.3   | 4.3-6.4 | 5.2-7.0   | 4.3-6.1 | 4.9-7.0   | 3.9-6.1 | 4.9-6.7   | 4.0-5.8 | 4.6-6.7   | 4.0-5.8 |
|                     | N.C                                | 21        | 28      | 19        | 25      | 17        | 24      | 15        | 20      | <15       | 15      |
| 250<br>0.1181       | Face vel.                          | 6.18      | 12.69   | 5.93      | 11.58   | 5.52      | 10.45   | 4.80      | 8.32    | 4.39      | 6.988   |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 2.76      | 9.02    | 2.18      | 7.62    | 2.0       | 6.45    | 1.45      | 4.32    | 1.24      | 2.95    |
|                     | Throw in (M)                       | 5.8-7.9   | 4.8-7.0 | 5.8-7.9   | 4.9-7.0 | 5.5-7.6   | 4.9-6.7 | 5.4-7.6   | 4.6-6.7 | 5.2-7.6   | 4.6-6.7 |
|                     | N.C                                | 28        | 35      | 27        | 32      | 24        | 31      | 21        | 27      | 17        | 23      |
| 300<br>0.1417       | Face vel.                          | 7.42      | 15.24   | 7.12      | 13.89   | 6.62      | 12.54   | 5.76      | 9.98    | 5.27      | 8.38    |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 3.96      | 13.21   | 3.15      | 10.92   | 2.9       | 9.27    | 2.1       | 6.22    | 1.8       | 4.24    |
|                     | Throw in (M)                       | 5.8-8.2   | 5.2-7.3 | 5.8-8.2   | 5.2-7.3 | 5.8-8.2   | 5.2-7.3 | 5.8-8.2   | 5.2-7.3 | 5.8-8.2   | 5.2-7.3 |
|                     | N.C                                | 34        | 40      | 31        | 38      | 28        | 36      | 26        | 33      | 23        | 30      |
| 350<br>0.1653       | Face vel.                          | 8.65      | 17.77   | 8.31      | 16.21   | 7.72      | 14.63   | 6.72      | 11.64   | 6.14      | 9.78    |
|                     | P <sub>t</sub> mm H <sub>2</sub> O | 5.38      | 17.53   | 4.32      | 14.98   | 3.9       | 12.57   | 2.87      | 8.51    | 2.46      | 5.77    |
|                     | Throw in (M)                       | 7.0-9.8   | 5.8-8.2 | 6.7-9.5   | 5.8-8.2 | 6.7-9.5   | 5.4-7.9 | 6.4-9.2   | 5.4-7.9 | 6.4-9.1   | 5.4-7.9 |
|                     | N.C                                | 37        | 45      | 35        | 42      | 32        | 39      | 30        | 37      | 28        | 35      |
| 400<br>0.1889       | Face vel.                          |           |         | 9.49      | 18.52   | 8.83      | 16.72   | 7.68      | 13.30   | 7.022     | 11.18   |
|                     | P <sub>t</sub> mm H <sub>2</sub> O |           |         | 5.61      | 19.56   | 5.13      | 16.51   | 3.76      | 11.05   | 3.2       | 7.52    |
|                     | Throw in (M)                       |           |         | 7.6-10.4  | 6.7-9.1 | 7.3-10.4  | 6.4-8.8 | 7.0-10.1  | 6.1-8.5 | 6.7-9.8   | 6.1-8.5 |
|                     | N.C                                |           |         | 38        | 45      | 36        | 42      | 34        | 40      | 32        | 38      |
| 450<br>0.2125       | Face vel.                          |           |         |           |         |           |         | 8.64      | 14.96   | 7.899     | 12.57   |
|                     | P <sub>t</sub> mm H <sub>2</sub> O |           |         |           |         |           |         | 4.72      | 13.97   | 4.06      | 9.53    |
|                     | Throw in (M)                       |           |         |           |         |           |         | 7.3-10.7  | 6.7-9.1 | 7.0-10.4  | 6.4-8.8 |
|                     | N.C                                |           |         |           |         |           |         | 39        | 43      | 36        | 42      |
| 500<br>0.2362       | Face vel.                          |           |         |           |         |           |         |           |         | 8.78      | 13.97   |
|                     | P <sub>t</sub> mm H <sub>2</sub> O |           |         |           |         |           |         |           |         | 5.00      | 11.74   |
|                     | Throw in (M)                       |           |         |           |         |           |         |           |         | 7.3-10.9  | 6.7-7.4 |
|                     | N.C                                |           |         |           |         |           |         |           |         | 40        | 45      |

- Face velocity is measured in m/sec.
- Total pressure loss is in mm of H<sub>2</sub>O & Area factor in square meter.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

**DOUBLE DEFLECTION**  
**GRILLES AND REGISTERS**  
RATING WITH 0° AND 45°  
DEFLECTION**Table 2.1(cont.) Air flow data**

| CFM<br>M <sup>3</sup> /sec | Listed<br>Size in<br>mm x mm       | 250 x 200<br>350 x 150<br>400 x 125<br>500 x 100 |         | 250 x 250<br>300 x 200<br>400 x 150<br>500 x 125<br>650 x 100 |          | 300 x 250<br>450 x 175<br>500 x 150<br>600 x 125<br>750 x 100 |          | 300 x 300<br>350 x 250<br>450 x 200<br>600 x 150 |          | 350 x 300<br>400 x 250<br>500 x 200<br>750 x 150 |          |       |  |        |  |        |  |        |  |        |  |        |  |
|----------------------------|------------------------------------|--|---------|---|----------|---|----------|--|----------|--|----------|-------|--|--------|--|--------|--|--------|--|--------|--|--------|--|
|                            |                                    | Area factor                                      |         | 0.028   |          | 0.0178  |          | 0.0324   |          | 0.022  |          | 0.039 |  | 0.0288 |  | 0.0469 |  | 0.0369 |  | 0.0528 |  | 0.0422 |  |
|                            |                                    | Deflection                                       |         | 0°  |          | 45°   |          | 0°   |          | 45°  |          | 0°    |  | 45°    |  | 0°     |  | 45°    |  | 0°     |  | 45°    |  |
| 200<br>0.0945              | Face vel.                          | 3.38   | 5.31    | 2.91  | 4.30     | 2.42  | 3.28     | 2.0  | 2.56     |  |          |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.64   | 1.7     | 0.36  | 1.17     | 0.23  | 0.71     | 0.15   | 0.41     |  |          |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       | 4.5-6.7  | 3.7-5.8 | 4.5-6.7   | 3.7-5.5  | 4.6-6.7   | 3.4-5.5  | 4.6-6.7  | 3.1-5.5  |  |          |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                | <15  | <15     | <15   | <15      | <15   | <15      | <15  | <15      | <15  |          |       |  |        |  |        |  |        |  |        |  |        |  |
| 250<br>0.1181              | Face vel.                          | 4.22   | 6.63    | 3.65  | 5.37     | 3.03  | 4.1      | 2.52   | 3.201    | 2.24   | 2.79     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.99   | 2.64    | 0.58  | 1.83     | 0.36  | 1.12     | 0.23   | 0.61     | 0.18   | 0.41     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       | 5.2-7.6  | 4.6-6.7 | 5.2-7.6   | 4.3-6.7  | 5.2-7.6   | 4.3-6.4  | 5.2-7.6  | 3.9-6.4  | 5.2-7.3  | 3.6-6.0  |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                | 15   | 21      | <15   | 18       | <15   | <15      | <15  | <15      | <15  | <15      |       |  |        |  |        |  |        |  |        |  |        |  |
| 300<br>0.1417              | Face vel.                          | 5.06   | 7.96    | 4.37  | 6.44     | 3.63  | 4.92     | 3.02   | 3.84     | 2.68   | 3.36     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.42   | 3.81    | 0.84  | 2.62     | 0.51  | 1.6      | 0.33   | 0.89     | 0.25   | 0.58     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       | 5.8-8.2  | 5.2-7.3 | 5.8-8.2   | 5.2-7.3  | 5.8-8.2   | 4.8-7.3  | 5.8-8.2  | 4.8-7.3  | 5.5-7.9  | 4.9-7.0  |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                | 20   | 27      | 17  | 22       | <15   | 19       | <15  | <15      | <15  | <15      |       |  |        |  |        |  |        |  |        |  |        |  |
| 400<br>0.1889              | Face vel.                          | 6.75   | 10.6    | 5.83  | 8.59     | 4.84  | 6.56     | 4.03   | 5.19     | 3.58   | 4.47     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 2.51   | 6.73    | 1.47  | 4.67     | 0.91  | 2.87     | 0.61   | 1.6      | 0.46   | 1.07     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       | 6.7-9.8  | 6.4-8.8 | 6.7-9.8   | 6.1-8.5  | 6.7-9.8   | 5.8-8.5  | 6.7-9.5  | 5.8-8.2  | 6.7-9.5  | 5.5-8.2  |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                | 29   | 36      | 24  | 27       | 19  | 21       | <15  | 17       | <15  | <15      |       |  |        |  |        |  |        |  |        |  |        |  |
| 500<br>0.2362              | Face vel.                          | 8.44   | 13.27   | 7.29  | 10.74    | 6.06  | 8.2      | 5.036  | 6.4      | 4.47   | 5.59     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 3.91   | 10.54   | 2.28  | 7.24     | 1.45  | 4.47     | 0.94   | 2.46     | 0.71   | 1.65     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       | 7.3-10.9   | 6.7-9.2 | 7.3-10.9  | 6.7-9.1  | 7.6-11.0  | 6.4-9.1  | 7.9-11.3   | 6.4-9.1  | 7.6-11.3   | 8.2-9.1  |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                | 35   | 42      | 30  | 32       | 26  | 28       | 18   | 24       | 15   | 19       |       |  |        |  |        |  |        |  |        |  |        |  |
| 600<br>0.2834              | Face vel.                          |  |         | 8.75  | 12.88    | 7.27  | 9.84     | 6.04   | 7.68     | 5.37   | 6.72     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |  |         | 3.3   | 10.52    | 2.06  | 6.45     | 1.35   | 3.58     | 1.04   | 2.36     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       |  |         | 8.5-12.2  | 7.0-10.0 | 8.5-12.2  | 7.0-10.0 | 8.5-12.2   | 7.0-10.0 | 8.5-12.2   | 6.7-10.1 |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                |  |         | 36  | 39       | 30  | 35       | 25   | 31       | 19   | 24       |       |  |        |  |        |  |        |  |        |  |        |  |
| 700<br>0.3307              | Face vel.                          |  |         |   |          | 8.48  | 11.48    | 7.05   | 8.96     | 6.26   | 7.84     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |  |         |   |          | 2.82  | 8.76     | 1.83   | 4.83     | 1.40   | 3.25     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       |  |         |   |          | 9.1-13.1  | 7.6-10.9 | 9.1-13.1   | 7.6-11.0 | 9.1-13.1   | 7.6-10.9 |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                |  |         |   |          | 36  | 42       | 32   | 37       | 25   | 31       |       |  |        |  |        |  |        |  |        |  |        |  |
| 800<br>0.3778              | Face vel.                          |  |         |   |          |   |          | 8.05   | 10.24    | 7.16   | 8.95     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |  |         |   |          |   |          | 2.41   | 6.35     | 1.83   | 4.22     |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       |  |         |   |          |   |          | 9.8-14.0   | 8.2-11.9 | 9.8-13.7   | 8.2-11.9 |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                |  |         |   |          |   |          | 36   | 41       | 33   | 37       |       |  |        |  |        |  |        |  |        |  |        |  |
| 900<br>0.425               | Face vel.                          |  |         |   |          |   |          | 9.06   | 11.52    | 8.05   | 10.07    |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |  |         |   |          |   |          | 3.05   | 8.0      | 2.31   | 5.3      |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | Throw in (M)                       |  |         |   |          |   |          | 10.0-14.6  | 8.5-12.5 | 10.0-14.6  | 8.4-12.5 |       |  |        |  |        |  |        |  |        |  |        |  |
|                            | N.C                                |  |         |   |          |   |          | 40   | 45       | 36   | 41       |       |  |        |  |        |  |        |  |        |  |        |  |

- Face velocity is measured in m/sec.
- Total pressure loss is in mm of H<sub>2</sub>O & Area factor in square meter.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

**Table 2.1(cont.) Air flow data**

| CFM<br>M <sup>3</sup> /sec | Listed<br>Size in<br>mm x mm       | 350 x 350<br>400 x 300<br>500 x 250<br>600 x 200<br>900 x 150 |              | 400 x 400<br>500 x 300<br>600 x 250<br>750 x 200 |              | 500 x 350<br>600 x 300<br>700 x 250<br>900 x 200<br>1200 x 150 |              | 450 x 450<br>500 x 400<br>800 x 250<br>1000 x 200 |              |
|----------------------------|------------------------------------|---|--------------|--|--------------|--|--------------|---|--------------|
|                            |                                    | Area factor<br>Deflection                                     | 0.0633<br>0° | 0.0529<br>45°                                    | 0.0827<br>0° | 0.072<br>45°   | 0.0926<br>0° | 0.0853<br>0°                                      | 0.1069<br>0° |
| 500<br><br>0.2362          | Face vel.                          | 3.73  | 4.47         | 2.86   | 3.28         | 2.46   | 2.77         | 2.21  | 2.43         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.48  | 1.02         | 0.28   | 0.45         | 0.20   | 0.31         | 0.15  | 0.23         |
|                            | Throw in (M)                       | 7.3-10.9  | 5.8-9.1      | 6.7-10.7   | 5.5-9.1      | 9.5-10.4   | 5.2-9.1      | 6.1-10.1  | 4.9-8.8      |
|                            | N.C                                | <15   | 16           | <15  | <15          | <15  | <15          | <15   | <15          |
| 600<br><br>0.2834          | Face vel.                          | 4.47  | 5.36         | 3.43   | 3.94         | 2.95   | 3.32         | 2.65  | 2.92         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.71  | 1.45         | 0.41   | 0.63         | 0.31   | 0.43         | 0.23  | 0.31         |
|                            | Throw in (M)                       | 8.2-11.9  | 6.4-10.1     | 7.6-11.6   | 6.4-10.1     | 7.3-11.3   | 6.1-10.1     | 7.0-10.7  | 6.1-9.8      |
|                            | N.C                                | 16  | 20           | <15  | 18           | <15  | 15           | <15   | <15          |
| 700<br><br>0.3307          | Face vel.                          | 5.22  | 6.25         | 4.0  | 4.59         | 3.44   | 3.88         | 3.09  | 3.4          |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.96  | 1.98         | 0.56   | 0.86         | 0.41   | 0.56         | 0.31  | 0.43         |
|                            | Throw in (M)                       | 8.8-12.8  | 7.3-10.9     | 8.5-12.5   | 7.0-11.0     | 8.5-12.2   | 7.0-10.9     | 8.2-11.9  | 6.7-10.7     |
|                            | N.C                                | 22  | 26           | 19   | 23           | 16   | 20           | 15  | 19           |
| 800<br><br>0.3778          | Face vel                           | 5.97  | 7.14         | 4.57   | 5.25         | 3.93   | 4.43         | 3.53  | 3.89         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.27  | 2.59         | 0.71   | 1.14         | 0.53   | 0.74         | 0.38  | 0.56         |
|                            | Throw in (M)                       | 9.8-13.4  | 8.2-11.9     | 9.5-13.1   | 7.9-10.6     | 9.5-13.1   | 7.9-11.6     | 9.1-12.5  | 7.6-11.3     |
|                            | N.C                                | 30  | 32           | 26   | 28           | 21   | 25           | 20  | 24           |
| 900<br><br>0.425           | Face vel                           | 6.71  | 8.03         | 5.14   | 5.9          | 4.42   | 4.98         | 3.98  | 4.38         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.60  | 3.25         | 0.91   | 1.45         | 0.68   | 0.94         | 0.48  | 0.71         |
|                            | Throw in (M)                       | 10.1-14.6   | 8.5-12.5     | 10.1-14.3  | 8.5-12.2     | 10.1-14.0  | 8.5-12.2     | 9.8-13.7  | 8.2-12.2     |
|                            | N.C                                | 33  | 36           | 30   | 33           | 25   | 30           | 24  | 29           |
| 1000<br><br>0.472          | Face vel                           | 7.44  | 8.92         | 5.69   | 6.55         | 4.92   | 5.55         | 4.45  | 4.86         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.98  | 4.01         | 1.11   | 1.78         | 0.84   | 1.17         | 0.61  | 0.86         |
|                            | Throw in (M)                       | 10.7-15   | 9.1-13       | 10.4-15  | 9.1-13.1     | 10.4-14.6  | 9.1-13.1     | 10.1-14.3   | 9.2-13.1     |
|                            | N.C                                | 37  | 40           | 34   | 36           | 30   | 33           | 29  | 32           |
| 1100<br><br>0.519          | Face vel                           | 8.18  | 9.81         | 6.25   | 7.21         | 5.41   | 6.11         | 4.89  | 5.35         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 2.39  | 4.88         | 1.35   | 2.16         | 1.02   | 1.42         | 0.74  | 1.07         |
|                            | Throw in (M)                       | 10.9-16   | 9.8-14       | 10.7-15  | 9.8-14       | 10.7-15.0  | 9.8-14       | 10.4-14.9   | 9.8-14       |
|                            | N.C                                | 40  | 45           | 36   | 40           | 33   | 36           | 32  | 35           |
| 1200<br><br>0.567          | Face vel                           |   |              | 6.83   | 7.87         | 5.91   | 6.67         | 5.35  | 5.84         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |   |              | 1.60   | 2.54         | 1.22   | 1.68         | 1.0   | 1.24         |
|                            | Throw in (M)                       |   |              | 11.3-16  | 10.4-15      | 11.3-15.9  | 10.4-14.9    | 11-15.2   | 10-14.8      |
|                            | N.C                                |   |              | 38   | 43           | 36   | 40           | 35  | 39           |
| 1400<br><br>0.661          | Face vel                           |   |              | 7.96   | 9.18         | 6.88   | 7.77         | 6.23  | 6.81         |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |   |              | 2.18   | 3.51         | 1.65   | 2.28         | 1.19  | 1.73         |
|                            | Throw in (M)                       |   |              | 12.2-17  | 11-15.5      | 12.2-16.8  | 10.9-15.2    | 11.6-16.2   | 10.4-15      |
|                            | N.C                                |   |              | 44   | 49           | 41   | 44           | 40  | 43           |

- Face velocity is measured in m/sec.
- Total pressure loss is in mm of H<sub>2</sub>O & Area factor in square meter.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

**DOUBLE DEFLECTION**  
**GRILLES AND REGISTERS**  
RATING WITH 0° AND 45°  
DEFLECTION**Table 2.1(cont.) Air flow data**

| CFM<br>M <sup>3</sup> /sec | Listed<br>Size in<br>mm x mm       | 600 x 400<br>900 x 250<br>800 x 300<br>1200 x 200 |           | 800 x 350<br>900 x 300<br>1100 x 250<br>1400 x 200 |           | 600 x 600<br>900 x 400<br>1000 x 350<br>1200 x 300 |           | 750 x 600<br>900 x 500<br>1000 x 450<br>1500 x 300<br>1200 x 375 |           | 800 x 750<br>900 x 700<br>1000 x 600<br>1200 x 500 |          |       |       |
|----------------------------|------------------------------------|---|-----------|--|-----------|--|-----------|--|-----------|--|----------|-------|-------|
|                            |                                    | Area factor                                       |           | 0.1352   | 0.1       | 0.162  | 0.1159    | 0.216  | 0.162     | 0.27   | 0.216    | 0.354 | 0.288 |
|                            |                                    | Deflection  |           | 0°   | 45°       | 0°   | 45°       | 0°   | 45°       | 0°   | 45°      | 0°    | 45°   |
| 1100<br><br>0.519          | Face vel                           | 3.84  | 5.19      | 3.20   | 4.48      | 2.4  | 3.2       | 1.92   | 2.4       |  |          |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.64  | 0.98      | 0.59   | 0.84      | 0.52   | 0.76      | 0.42   | 0.62      |  |          |       |       |
|                            | Throw in (M)                       | 9.8-14.3  | 9.2-13.2  | 9.2-13.6   | 8.6-12.8  | 8.8-13.0   | 8.1-11.3  | 7.0-9.1  | 6.2-8.3   |  |          |       |       |
|                            | N.C                                | 30  | 33        | 28   | 29        | 25   | 27        | 20   | 24        |  |          |       |       |
| 1200<br><br>0.567          | Face vel                           | 4.19  | 5.67      | 3.5  | 4.89      | 2.63   | 3.5       | 2.1  | 2.63      | 1.6  | 1.97     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.87  | 1.09      | 0.69   | 0.92      | 0.58   | 0.81      | 0.48   | 0.71      | 0.38   | 0.51     |       |       |
|                            | Throw in (M)                       | 10.3-14.8   | 9.8-14.0  | 9.7-14.3   | 9.1-13.2  | 9.3-13.8   | 8.4-11.9  | 7.5-10.8   | 6.8-9.4   | 6.3-9.2  | 5.7-8.1  |       |       |
|                            | N.C                                | 32  | 35        | 30   | 32        | 27   | 29        | 24   | 26        | 20   | 22       |       |       |
| 1400<br><br>0.661          | Face vel                           | 4.89  | 6.61      | 4.08   | 5.7       | 3.06   | 4.08      | 2.45   | 3.06      | 1.87   | 2.29     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 0.93  | 1.51      | 0.76   | 1.21      | 0.63   | 0.98      | 0.51   | 0.79      | 0.43   | 0.58     |       |       |
|                            | Throw in (M)                       | 10.8-15.4   | 10.2-14.6 | 10.1-15.0  | 9.7-13.8  | 9.7-14.3   | 8.8-11.3  | 8.1-11.3   | 7.3-10.1  | 6.8-10.1   | 6.1-8.8  |       |       |
|                            | N.C                                | 35  | 38        | 33   | 35        | 30   | 32        | 27   | 29        | 23   | 25       |       |       |
| 1600<br><br>0.756          | Face vel                           | 5.59  | 7.56      | 4.67   | 6.52      | 3.5  | 4.82      | 2.8  | 3.5       | 2.13   | 2.63     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.03  | 1.82      | 0.84   | 1.43      | 0.71   | 1.12      | 0.63   | 0.91      | 0.51   | 0.64     |       |       |
|                            | Throw in (M)                       | 11.5-16.9   | 10.8-15.1 | 10.6-15.4  | 10.1-14.5 | 10.1-14.8  | 9.3-12.1  | 8.8-12.1   | 7.9-10.7  | 7.3-10.9   | 6.7-9.2  |       |       |
|                            | N.C                                | 38  | 40        | 36   | 37        | 33   | 34        | 29   | 31        | 25   | 28       |       |       |
| 1800<br><br>0.85           | Face vel                           | 6.29  | 8.5       | 5.25   | 7.33      | 3.94   | 5.32      | 3.15   | 3.94      | 2.4  | 2.95     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.32  | 2.24      | 0.97   | 1.73      | 0.82   | 1.34      | 0.72   | 1.13      | 0.58   | 0.78     |       |       |
|                            | Throw in (M)                       | 12.6-18.2   | 11.4-17.3 | 11.8-16.7  | 10.7-15.3 | 10.9-16.1  | 9.8-14.1  | 10.1-14.2  | 8.2-12.2  | 7.9-11.6   | 7.1-9.8  |       |       |
|                            | N.C                                | 41  | 44        | 39   | 41        | 36   | 37        | 31   | 33        | 28   | 31       |       |       |
| 2000<br><br>0.945          | Face vel                           | 6.99  | 9.78      | 5.83   | 8.15      | 4.38   | 5.83      | 3.5  | 4.38      | 2.7  | 3.28     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O | 1.61  | 2.53      | 1.03   | 1.92      | 0.88   | 1.52      | 0.78   | 1.23      | 0.61   | 0.83     |       |       |
|                            | Throw in (M)                       | 13.8-19.7   | 12.4-18.6 | 13.2-18.1  | 11.6-16.5 | 12.1-17.3  | 10.3-14.8 | 10.7-15.1  | 8.8-13.1  | 8.2-11.8   | 7.4-10.4 |       |       |
|                            | N.C                                | 44  | 47        | 41   | 43        | 39   | 41        | 33   | 36        | 28   | 32       |       |       |
| 2200<br><br>1.039          | Face vel                           |   |           | 6.41   | 8.96      | 4.81   | 6.41      | 3.85   | 4.81      | 2.94   | 3.61     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |   |           | 1.16   | 2.42      | 0.95   | 1.82      | 0.83   | 1.45      | 0.72   | 0.93     |       |       |
|                            | Throw in (M)                       |   |           | 14.3-19.5  | 12.4-17.7 | 12.8-18.1  | 10.9-15.7 | 11.2-16.4  | 9.3-13.8  | 8.9-13.0   | 8.1-11.3 |       |       |
|                            | N.C                                |   |           | 44   | 47        | 41   | 44        | 35   | 39        | 30   | 33       |       |       |
| 2400<br><br>1.134          | Face vel                           |   |           |  |           | 5.25   | 7.0       | 4.2  | 5.25      | 3.2  | 3.94     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |   |           |  |           | 1.13   | 2.04      | 0.93   | 1.63      | 0.81   | 1.03     |       |       |
|                            | Throw in (M)                       |   |           |  |           | 13.7-19.2  | 11.4-16.4 | 12.2-17.3  | 9.9-14.7  | 9.5-13.8   | 8.7-12.1 |       |       |
|                            | N.C                                |   |           |  |           | 43   | 46        | 37   | 42        | 32   | 35       |       |       |
| 2600<br><br>1.228          | Face vel                           |   |           |  |           | 5.69   | 7.58      | 4.55   | 5.69      | 3.47   | 4.26     |       |       |
|                            | P <sub>t</sub> mm H <sub>2</sub> O |   |           |  |           | 1.43   | 2.43      | 1.07   | 1.93      | 0.92   | 1.32     |       |       |
|                            | Throw in (M)                       |   |           |  |           | 14.4-21.3  | 12.1-17.6 | 13.1-18.4  | 10.7-15.4 | 10.7-15.7  | 9.3-13.2 |       |       |
|                            | N.C                                |   |           |  |           | 45   | 48        | 40   | 44        | 33   | 37       |       |       |

- Face velocity is measured in m/sec.
- Total pressure loss is in mm of H<sub>2</sub>O & Area factor in square meter.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

**Table 2.2 Air flow data**

| Listed size in<br>mm x mm                          | Face vel m/sec.                    | 1.5    | 2.0    | 2.5    | 3.0    | 3.5    | 4.0    | 4.5    | 5.0    |
|--|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | P <sub>s</sub> mm H <sub>2</sub> O | 0.91   | 1.63   | 2.54   | 3.68   | 4.97   | 6.5    | 8.33   | 10.16  |
| 250x100 / 200x125<br>150x150                       | CFM                                | 60     | 80     | 100    | 120    | 140    | 160    | 180    | 200    |
|  | M <sup>3</sup> /sec                | 0.0283 | 0.0378 | 0.0472 | 0.0567 | 0.0661 | 0.0756 | 0.085  | 0.0945 |
|  | NC                                 | <15    | 16     | 24     | 27     | 31     | 36     | 41     | 46     |
| 200x150 / 250x125<br>300x100                       | CFM                                | 81     | 108    | 135    | 162    | 189    | 216    | 243    | 270    |
|  | M <sup>3</sup> /sec                | 0.0383 | 0.051  | 0.0638 | 0.765  | 0.0893 | 0.102  | 0.1148 | 0.1275 |
|  | NC                                 | <15    | 16     | 24     | 27     | 31     | 36     | 41     | 46     |
| 250x150 / 300x125<br>400x100                       | CFM                                | 102    | 136    | 170    | 204    | 238    | 272    | 306    | 340    |
|  | M <sup>3</sup> /sec                | 0.0482 | 0.0642 | 0.0803 | 0.0964 | 0.1124 | 0.1285 | 0.1445 | 0.1606 |
|  | NC                                 | <15    | 15     | 24     | 27     | 31     | 36     | 41     | 46     |
| 300x150 / 350x125<br>450x100                       | CFM                                | 120    | 160    | 200    | 240    | 280    | 320    | 360    | 400    |
|  | M <sup>3</sup> /sec                | 0.0567 | 0.0756 | 0.0945 | 0.1134 | 0.1322 | 0.1512 | 0.17   | 0.1889 |
|  | NC                                 | <15    | 15     | 25     | 28     | 31     | 36     | 41     | 47     |
| 250x200 / 350x150<br>400x125 / 500x100             | CFM                                | 141    | 188    | 235    | 282    | 329    | 376    | 423    | 470    |
|  | M <sup>3</sup> /sec                | 0.0666 | 0.088  | 0.1109 | 0.1332 | 0.1554 | 0.178  | 0.199  | 0.222  |
|  | NC                                 | <15    | 16     | 24     | 27     | 31     | 35     | 40     | 47     |
| 250x250 / 300x200<br>400x150 / 500x125<br>600x100  | CFM                                | 162    | 216    | 270    | 324    | 378    | 432    | 486    | 540    |
|  | M <sup>3</sup> /sec                | 0.0765 | 0.102  | 0.1275 | 0.153  | 0.1785 | 0.204  | 0.2295 | 0.255  |
|  | NC                                 | <15    | 16     | 24     | 27     | 31     | 35     | 42     | 47     |
| 300x250 / 450x150<br>500x150 / 600x125<br>750x100  | CFM                                | 180    | 270    | 300    | 360    | 420    | 480    | 540    | 600    |
|  | M <sup>3</sup> /sec                | 0.085  | 0.1133 | 0.142  | 0.17   | 0.198  | 0.2267 | 0.255  | 0.2833 |
|  | NC                                 | <15    | 17     | 23     | 27     | 31     | 35     | 40     | 46     |
| 300x300 / 350x250<br>450x200 / 600x150             | CFM                                | 240    | 320    | 400    | 480    | 560    | 640    | 720    | 800    |
|  | M <sup>3</sup> /sec                | 0.1133 | 0.151  | 0.1889 | 0.2267 | 0.2645 | 0.302  | 0.3401 | 0.3778 |
|  | NC                                 | <15    | 18     | 23     | 27     | 31     | 35     | 40     | 47     |
| 350x300 / 400x250<br>500x200 / 750x150             | CFM                                | 300    | 400    | 500    | 600    | 700    | 800    | 900    | 1000   |
|  | M <sup>3</sup> /sec                | 0.1416 | 0.1889 | 0.236  | 0.283  | 0.331  | 0.3778 | 0.425  | 0.4723 |
|  | NC                                 | <15    | 19     | 23     | 27     | 32     | 36     | 40     | 48     |
| 350x350 / 400x300<br>500x250 / 600x200<br>900x150  | CFM                                | 360    | 480    | 600    | 720    | 840    | 960    | 1080   | 1200   |
|  | M <sup>3</sup> /sec                | 0.17   | 0.2267 | 0.283  | 0.34   | 0.3967 | 0.453  | 0.51   | 0.5667 |
|  | NC                                 | <15    | 21     | 24     | 27     | 32     | 36     | 40     | 48     |
| 400x350 / 550x250<br>700x200                       | CFM                                | 420    | 560    | 700    | 840    | 980    | 1120   | 1260   | 1400   |
|  | M <sup>3</sup> /sec                | 0.198  | 0.264  | 0.331  | 0.397  | 0.463  | 0.529  | 0.595  | 0.661  |
|  | NC                                 | <15    | 21     | 24     | 28     | 33     | 37     | 41     | 49     |
| 400x400 / 500x300<br>600x250 / 800x200             | CFM                                | 480    | 640    | 800    | 960    | 1120   | 1280   | 1440   | 1600   |
|  | M <sup>3</sup> /sec                | 0.2267 | 0.3023 | 0.3778 | 0.453  | 0.529  | 0.6046 | 0.68   | 0.7556 |
|  | NC                                 | 16     | 22     | 25     | 29     | 33     | 38     | 42     | 49     |
| 500x350 / 600x300<br>700x250 / 900x200<br>1000x150 | CFM                                | 540    | 720    | 900    | 1080   | 1260   | 1440   | 1620   | 1800   |
|  | M <sup>3</sup> /sec                | 0.255  | 0.3401 | 0.4251 | 0.51   | 0.51   | 0.6801 | 0.765  | 0.85   |
|  | NC                                 | 17     | 22     | 25     | 29     | 34     | 42     | 43     | 50     |
| 450x450 / 500x400<br>750x250<br>1000x200           | CFM                                | 600    | 800    | 1000   | 1200   | 1400   | 1600   | 1800   | 2000   |
|  | M <sup>3</sup> /sec                | 0.2834 | 0.3778 | 0.4723 | 0.5668 | 0.6612 | 0.7556 | 0.85   | 0.9446 |
|  | NC                                 | 18     | 23     | 26     | 30     | 35     | 43     | 41     | 50     |
| 500x500 / 550x450<br>750x300 / 900x250<br>1000x200 | CFM                                | 660    | 880    | 1100   | 1320   | 1540   | 1760   | 1980   | 2200   |
|  | M <sup>3</sup> /sec                | 0.3117 | 0.4156 | 0.5195 | 0.6234 | 0.7273 | 0.8313 | 0.935  | 1.039  |
|  | NC                                 | 18     | 23     | 27     | 31     | 36     | 40     | 44     | 52     |

- Face velocity is measured in m/sec.
- P<sub>s</sub>: Static pressure loss in mm of H<sub>2</sub>O
- NC based on a room attenuation of 10 dB.


**Table 2.3 Air flow data**

| Listed size in<br>mm x mm                          | Face vel m/sec.                    | 2.5   | 3.0   | 3.5   | 4.0   | 4.5   | 5.00  | 5.50  | 6.00  |
|--|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|  | P <sub>s</sub> mm H <sub>2</sub> O | 1.7   | 2.46  | 3.35  | 4.37  | 5.59  | 6.86  | 8.38  | 9.9   |
| 250x100 / 200x125<br>150x150                       | CFM                                | 150   | 180   | 210   | 240   | 270   | 300   | 330   | 360   |
|  | M <sup>3</sup> /sec                | 0.071 | 0.085 | 0.099 | 0.113 | 0.127 | 0.142 | 0.156 | 0.17  |
|  | NC                                 | <15   | 19    | 22    | 25    | 29    | 33    | 36    | 38    |
| 200x150 / 250x125<br>300x100                       | CFM                                | 180   | 210   | 240   | 280   | 320   | 350   | 390   | 420   |
|  | M <sup>3</sup> /sec                | 0.085 | 0.099 | 0.113 | 0.132 | 0.151 | 0.165 | 0.184 | 0.198 |
|  | NC                                 | <15   | 18    | 22    | 26    | 29    | 33    | 35    | 37    |
| 250x150 / 300x125<br>400x100                       | CFM                                | 220   | 260   | 310   | 350   | 400   | 440   | 490   | 530   |
|  | M <sup>3</sup> /sec                | 0.104 | 0.123 | 0.146 | 0.165 | 0.189 | 0.208 | 0.231 | 0.250 |
|  | NC                                 | 16    | 20    | 25    | 28    | 31    | 35    | 38    | 40    |
| 300x150 / 350x125<br>450x100                       | CFM                                | 240   | 290   | 340   | 390   | 440   | 490   | 540   | 590   |
|  | M <sup>3</sup> /sec                | 0.113 | 0.137 | 0.161 | 0.184 | 0.208 | 0.231 | 0.255 | 0.279 |
|  | NC                                 | 15    | 20    | 24    | 27    | 30    | 34    | 37    | 40    |
| 250x200 / 350x150<br>400x125 / 500x100             | CFM                                | 270   | 320   | 370   | 420   | 480   | 530   | 590   | 640   |
|  | M <sup>3</sup> /sec                | 0.127 | 0.151 | 0.165 | 0.198 | 0.227 | 0.25  | 0.279 | 0.302 |
|  | NC                                 | <15   | 17    | 21    | 24    | 28    | 31    | 35    | 38    |
| 250x250 / 300x200<br>400x150 / 500x125<br>600x100  | CFM                                | 310   | 370   | 430   | 490   | 550   | 610   | 680   | 740   |
|  | M <sup>3</sup> /sec                | 0.146 | 0.165 | 0.203 | 0.231 | 0.259 | 0.288 | 0.321 | 0.349 |
|  | NC                                 | 15    | 19    | 23    | 26    | 30    | 34    | 36    | 39    |
| 300x250 / 450x150<br>500x150 / 600x125<br>750x100  | CFM                                | 360   | 440   | 510   | 580   | 660   | 730   | 810   | 800   |
|  | M <sup>3</sup> /sec                | 0.17  | 0.208 | 0.241 | 0.274 | 0.312 | 0.345 | 0.382 | 0.416 |
|  | NC                                 | 15    | 20    | 24    | 27    | 31    | 34    | 37    | 39    |
| 300x300 / 350x250<br>450x200 / 600x150             | CFM                                | 420   | 500   | 590   | 670   | 750   | 840   | 930   | 1020  |
|  | M <sup>3</sup> /sec                | 0.198 | 0.236 | 0.279 | 0.316 | 0.354 | 0.397 | 0.439 | 0.482 |
|  | NC                                 | <15   | 15    | 23    | 27    | 30    | 34    | 37    | 40    |
| 350x300 / 400x250<br>500x200 / 750x150             | CFM                                | 450   | 540   | 630   | 720   | 810   | 900   | 1000  | 1090  |
|  | M <sup>3</sup> /sec                | 0.213 | 0.255 | 0.297 | 0.34  | 0.382 | 0.425 | 0.472 | 0.514 |
|  | NC                                 | <15   | 16    | 21    | 25    | 29    | 33    | 37    | 40    |
| 350x350 / 400x300<br>500x250 / 600x200<br>900x150  | CFM                                | 510   | 620   | 720   | 820   | 930   | 1030  | 1140  | 1240  |
|  | M <sup>3</sup> /sec                | 0.241 | 0.293 | 0.340 | 0.387 | 0.439 | 0.486 | 0.538 | 0.586 |
|  | NC                                 | 15    | 20    | 24    | 29    | 32    | 37    | 40    | 43    |
| 400x400 / 500x300<br>600x250 / 800x200             | CFM                                | 580   | 700   | 820   | 940   | 1050  | 1170  | 1290  | 1400  |
|  | M <sup>3</sup> /sec                | 0.274 | 0.331 | 0.387 | 0.444 | 0.496 | 0.553 | 0.609 | 0.661 |
|  | NC                                 | 15    | 20    | 25    | 30    | 34    | 38    | 41    | 44    |
| 500x350/600x300<br>700x250/900x200<br>1000x150     | CFM                                | 660   | 800   | 930   | 1060  | 1200  | 1330  | 1470  | 1600  |
|  | M <sup>3</sup> /sec                | 0.312 | 0.378 | 0.439 | 0.501 | 0.567 | 0.628 | 0.694 | 0.756 |
|  | NC                                 | 16    | 22    | 26    | 32    | 35    | 39    | 42    | 45    |
| 450x450 / 500x400<br>750x250<br>1000x200           | CFM                                | 700   | 840   | 980   | 1120  | 1270  | 1400  | 1550  | 1690  |
|  | M <sup>3</sup> /sec                | 0.331 | 0.397 | 0.463 | 0.529 | 0.599 | 0.661 | 0.732 | 0.798 |
|  | NC                                 | 16    | 21    | 25    | 30    | 33    | 35    | 39    | 43    |
| 500x500 / 550x450<br>750x300 / 900x250<br>1000x200 | CFM                                | 800   | 970   | 1130  | 1280  | 1440  | 1600  | 1770  | 1930  |
|  | M <sup>3</sup> /sec                | 0.378 | 0.458 | 0.533 | 0.605 | 0.68  | 0.756 | 0.836 | 0.912 |
|  | NC                                 | 18    | 23    | 27    | 33    | 38    | 40    | 43    | 45    |

- Face velocity is measured in m/sec.
- P<sub>s</sub>: Static pressure loss in mm of H<sub>2</sub>O
- NC based on a room attenuation of 10 dB.

**Table 2.3 Air flow data**

| Listed size in<br>mm x mm                          | Face vel m/sec.<br>P <sub>s</sub> mm H <sub>2</sub> O | 2.75  | 3.25  | 4.0   | 4.5   | 5.0   | 5.5   | 6.0   | 6.5   |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|
|  |   | 2.16  | 3.05  | 4.32  | 5.59  | 7.11  | 8.89  | 10.92 | 12.95 |
| 250x100 / 200x125<br>150x150                       | CFM   | 150   | 180   | 210   | 240   | 270   | 300   | 330   | 360   |
|  | M <sup>3</sup> /sec                                   | 0.071 | 0.085 | 0.099 | 0.113 | 0.127 | 0.142 | 0.156 | 0.17  |
|  | NC  | 18    | 22    | 25    | 28    | 32    | 36    | 39    | 41    |
| 200x150 / 250x125<br>300x100                       | CFM   | 180   | 210   | 240   | 280   | 320   | 350   | 390   | 420   |
|  | M <sup>3</sup> /sec                                   | 0.085 | 0.099 | 0.113 | 0.132 | 0.151 | 0.165 | 0.184 | 0.198 |
|  | NC  | 17    | 21    | 25    | 29    | 32    | 36    | 38    | 40    |
| 250x150 / 300x125<br>400x100                       | CFM   | 220   | 260   | 310   | 350   | 400   | 440   | 490   | 530   |
|  | M <sup>3</sup> /sec                                   | 0.104 | 0.123 | 0.146 | 0.165 | 0.189 | 0.208 | 0.231 | 0.250 |
|  | NC  | 19    | 23    | 28    | 31    | 34    | 38    | 41    | 43    |
| 300x150 / 350x125<br>450x100                       | CFM   | 240   | 290   | 340   | 390   | 440   | 490   | 540   | 590   |
|  | M <sup>3</sup> /sec                                   | 0.113 | 0.137 | 0.161 | 0.184 | 0.208 | 0.231 | 0.255 | 0.279 |
|  | NC  | 18    | 23    | 27    | 30    | 33    | 37    | 40    | 43    |
| 250x200 / 350x150<br>400x125 / 500x100             | CFM   | 270   | 320   | 370   | 420   | 480   | 530   | 590   | 640   |
|  | M <sup>3</sup> /sec                                   | 0.127 | 0.151 | 0.165 | 0.198 | 0.227 | 0.25  | 0.279 | 0.302 |
|  | NC  | 16    | 20    | 24    | 27    | 31    | 34    | 38    | 41    |
| 250x250 / 300x200<br>400x150 / 500x125<br>600x100  | CFM   | 310   | 370   | 430   | 490   | 550   | 610   | 680   | 740   |
|  | M <sup>3</sup> /sec                                   | 0.146 | 0.165 | 0.203 | 0.231 | 0.259 | 0.288 | 0.321 | 0.349 |
|  | NC  | 18    | 22    | 26    | 29    | 33    | 37    | 39    | 42    |
| 300x250 / 450x150<br>500x150 / 600x125<br>750x100  | CFM   | 360   | 440   | 510   | 580   | 660   | 730   | 810   | 800   |
|  | M <sup>3</sup> /sec                                   | 0.17  | 0.208 | 0.241 | 0.274 | 0.312 | 0.345 | 0.382 | 0.416 |
|  | NC  | 18    | 23    | 27    | 30    | 34    | 37    | 40    | 42    |
| 300x300 / 350x250<br>450x200 / 600x150             | CFM   | 420   | 500   | 590   | 670   | 750   | 840   | 930   | 1020  |
|  | M <sup>3</sup> /sec                                   | 0.198 | 0.236 | 0.279 | 0.316 | 0.354 | 0.397 | 0.439 | 0.482 |
|  | NC  | <15   | 18    | 26    | 30    | 33    | 37    | 40    | 43    |
| 350x300 / 400x250<br>500x200 / 750x150             | CFM   | 450   | 540   | 630   | 720   | 810   | 900   | 1000  | 1090  |
|  | M <sup>3</sup> /sec                                   | 0.213 | 0.255 | 0.297 | 0.34  | 0.382 | 0.425 | 0.472 | 0.514 |
|  | NC  | 15    | 19    | 24    | 28    | 32    | 36    | 40    | 43    |
| 350x350 / 400x300<br>500x250 / 600x200<br>900x150  | CFM   | 510   | 620   | 720   | 820   | 930   | 1030  | 1140  | 1240  |
|  | M <sup>3</sup> /sec                                   | 0.241 | 0.293 | 0.340 | 0.387 | 0.439 | 0.486 | 0.538 | 0.586 |
|  | NC  | 18    | 23    | 27    | 32    | 35    | 40    | 43    | 46    |
| 400x400 / 500x300<br>600x250 / 800x200             | CFM   | 580   | 700   | 820   | 940   | 1050  | 1170  | 1290  | 1400  |
|  | M <sup>3</sup> /sec                                   | 0.274 | 0.331 | 0.387 | 0.444 | 0.496 | 0.553 | 0.609 | 0.661 |
|  | NC  | 15    | 20    | 25    | 30    | 37    | 41    | 44    | 47    |
| 500x350/600x300<br>700x250/900x200<br>1000x150     | CFM   | 660   | 800   | 930   | 1060  | 1200  | 1330  | 1470  | 1600  |
|  | M <sup>3</sup> /sec                                   | 0.312 | 0.378 | 0.439 | 0.501 | 0.567 | 0.628 | 0.694 | 0.756 |
|  | NC  | 19    | 25    | 29    | 35    | 38    | 42    | 45    | 48    |
| 450x450 / 500x400<br>750x250<br>1000x200           | CFM   | 700   | 840   | 980   | 1120  | 1270  | 1400  | 1550  | 1690  |
|  | M <sup>3</sup> /sec                                   | 0.331 | 0.397 | 0.463 | 0.529 | 0.599 | 0.661 | 0.732 | 0.798 |
|  | NC  | 19    | 24    | 28    | 33    | 36    | 38    | 42    | 46    |
| 500x500 / 550x450<br>750x300 / 900x250<br>1000x200 | CFM   | 800   | 970   | 1130  | 1280  | 1440  | 1600  | 1770  | 1930  |
|  | M <sup>3</sup> /sec                                   | 0.378 | 0.458 | 0.533 | 0.605 | 0.68  | 0.756 | 0.836 | 0.912 |
|  | NC  | 21    | 26    | 30    | 36    | 41    | 43    | 46    | 48    |

- Face velocity is measured in m/sec.
- P<sub>s</sub>: Static pressure loss in mm of H<sub>2</sub>O
- NC based on a room attenuation of 10 dB.



**air master**  
ISO 9001 CERTIFIED COMPANY

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