

**MADEL**<sup>®</sup>



## DMT fixed blades return grilles at 45°



**MADEL**<sup>®</sup>

The **DMT** series grilles are designed to be used in extractors of cold and hot air.

According to the model, they are mounted on walls, ceilings or false ceilings.

Their fixed blades at 45° guarantee an uniform air return in all the step section at the same time that prevent the vision through the grille.

**Models:**

**DMT**

**DMT-KLIN**

**DMT-MOD**

## DMT

### Classification

**DMT-AR** Grilles with blades fixed at 45°, parallel to the longer side.

**EMT-AR** Grilles with blades fixed at 45°, parallel to the shorter side.

### Material

Grilles constructed from extruded aluminium. All grilles are provided with a seal on the back of the frame in order that the perimeter in contact with walls, ceiling, ducts, etc... is airtight.

### Additional accessories

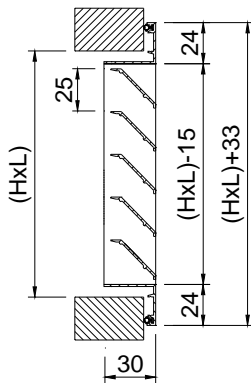
**SP** Opposed blades damper to regulate the air flow. The damper is operated by an easily accessible key inside the grille. Constructed from electro-zinc steel, painted in black colour. The damper is held in place by "S" springs.

**MLL** Galvanised mesh of 13x13 fixed to the grille.

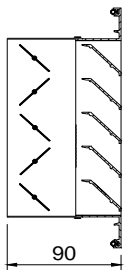
**PFT** Filter box made in galvanised steel with mesh and filter included (K/8 efficiency EN 779 G3). The grille is held in place by threaded knobs.

**CM** Mounting frame constructed from galvanised steel. It is delivered in 4 linear elements to assemble. When assembling with metallic frame, measures H and L increase 8 mm.

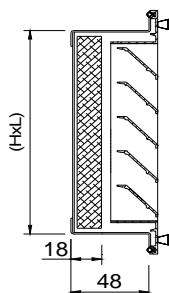
### DMT-AR



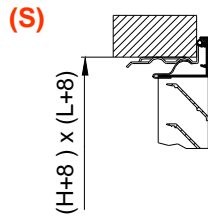
### DMT-AR+SP



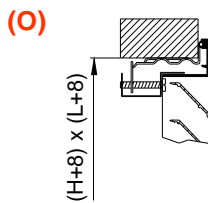
### DMT-AR+PFT



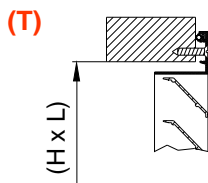
### Fixing systems



(S) The grille is fixed in place with clips. It requires the CM mounting frame. Advisable only for wall mounting.



(O) The grille is fixed in place by a hidden screw. It requires the CM mounting frame.



(T) The grille is fixed in place with screws.

1) The filter box is fixed in place with screws or sidepieces. The grille is held to the PFT by threaded knobs.

### Finishes

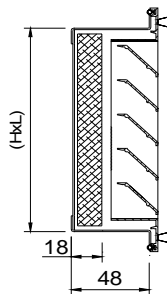
AA Matt silver anodised.

M9016 Painted in white similar to RAL 9016.

R9010 Painted in white RAL 9010.

RAL... Painted in other RAL colours.

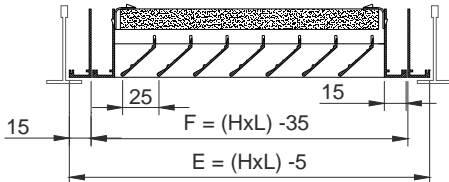
### DMT-AR+PFT



### Specification text

Supply and mounting of air return grille with fixed blades at 45° parallels to the largest side series **DMT-AR+SP+CM (S) M9016 dim. LxH**, constructed from aluminium paint in white **M9016** with opposed blades volume damper from electro-zinc steel in black colour **SP**, invisible fixing by clips **(S)** and mounting frame **CM**. Manufacturer **MADEL**.

### DMT-KLIN / DMT-KLIN+PFT



| L x H     | E         | F         |
|-----------|-----------|-----------|
| 600 x 300 | 595 x 295 | 565 x 265 |
| 625 x 313 | 620 x 308 | 605 x 278 |
| 675 x 338 | 670 x 330 | 640 x 300 |
| 600 x 600 | 595 x 595 | 565 x 565 |
| 625 x 625 | 620 x 620 | 605 x 605 |
| 675 x 675 | 670 x 670 | 640 x 640 |

### DMT-KLIN

#### Classification

**DMT-KLIN** Grilles with blades fixed at 45°, hinged removable core without tools, by pressing on the invisible PUSH fasteners. By slightly pressing on the invisible latch, the core opens, remaining hinged on one side. If necessary the core can be easily removed for its maintenance, that conforms with the regulations required for maintenance of HVAC installations.

#### Material

Grilles constructed from extruded aluminium.

#### Additional accessories

**PFT** Filter box made in galvanised steel with mesh and filter included (K/8 class EN 779 G3).

**PLK** Plenum box fixed to the grille with an upper connection, made in galvanised steel.

**...-R** Plenum box with a flow damper in the spigot.

**.../L/** Plenum box with a lateral connection.

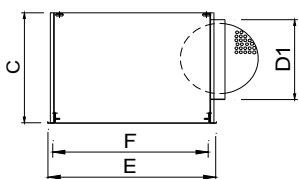
**.../AIS/** Plenum box thermo acoustically insulated by a foam with a coefficient of thermal conductivity of 0,04 w/mk. This foam complies with the fire reaction specifications:

UNE 23-727 M2

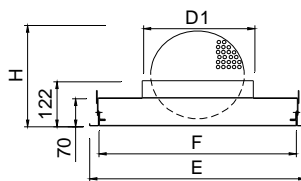
NFP 92-501 M2

DIN 4102 M2

### PLK/L...-R

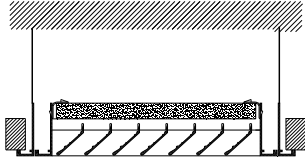


### PLK...-R



| L x H     | E         | F         | D1    | H   | C   |
|-----------|-----------|-----------|-------|-----|-----|
| 600 x 300 | 595 x 295 | 565 x 265 | 2/198 | 353 | 435 |
| 625 x 313 | 620 x 308 | 605 x 278 | 2/198 | 353 | 435 |
| 675 x 338 | 670 x 330 | 640 x 300 | 2/198 | 353 | 435 |
| 600 x 600 | 595 x 595 | 565 x 565 | 313   | 353 | 435 |
| 625 x 625 | 620 x 620 | 605 x 605 | 313   | 353 | 435 |
| 675 x 675 | 670 x 670 | 640 x 640 | 313   | 353 | 435 |

(1)



### Fixing systems

1) Supports to hang the assembly from the ceiling with drops rods.

### Finishes

**M9016** Painted in white similar to RAL 9016.

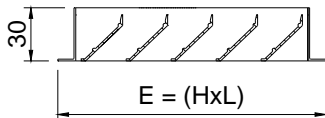
**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

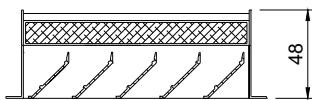
### Specification text

Supply and mounting of air return grille with fixed blades with hinged removable core without tools, by pressing on the invisible PUSH fasteners series **DMT-KLIN+PFT M9016 dim. LxH**, with filter type K/8 efficiency EN 779 G3, constructed from aluminium paint in white **M9016**.  
 Manufacturer **MADEL**.

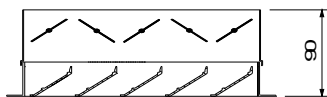
### DMT-MOD



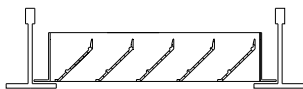
### DMT-MOD-PFT



### DMT-MOD+SP



(1)



## DMT-MOD

### Classification

**DMT-MOD** Grilles with blades fixed at 45°, parallel to the longer side.

**DMT-MOD-PFT** Grilles with filter type K/8 efficiency EN 779 G3.

**DMT-MOD+SP** Grilles with blades fixed at 45°, parallel to the shorter side.

### Material

Grilles constructed from extruded aluminium.

### Additional accessories

**SP** Opposed blades damper to regulate the air flow. The damper is operated by an easily accessible key inside the grille. Constructed from electro-zinc steel, painted in black colour. The damper is held in place by "S" springs.

### Fixing systems

**1)** Suspended at the false ceiling. Replace a false ceiling plate.



### Finishes

**AA** Matt silver anodised.

**M9016** Painted in white similar to RAL 9016.

**R9010** Painted in white RAL 9010.

**RAL...** Painted in other RAL colours.

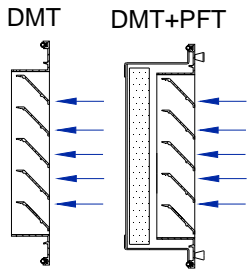
### Specification text

Supply and mounting of air return grille with fixed blades at 45° parallels to the largest side series **DMT-MOD+PFT M9016 dim. 595x595**, with filter type K/8 efficiency EN 779 G3, designed to replace false ceiling tile, constructed from aluminium paint in white **M9016**. Manufacturer **MADEL**.

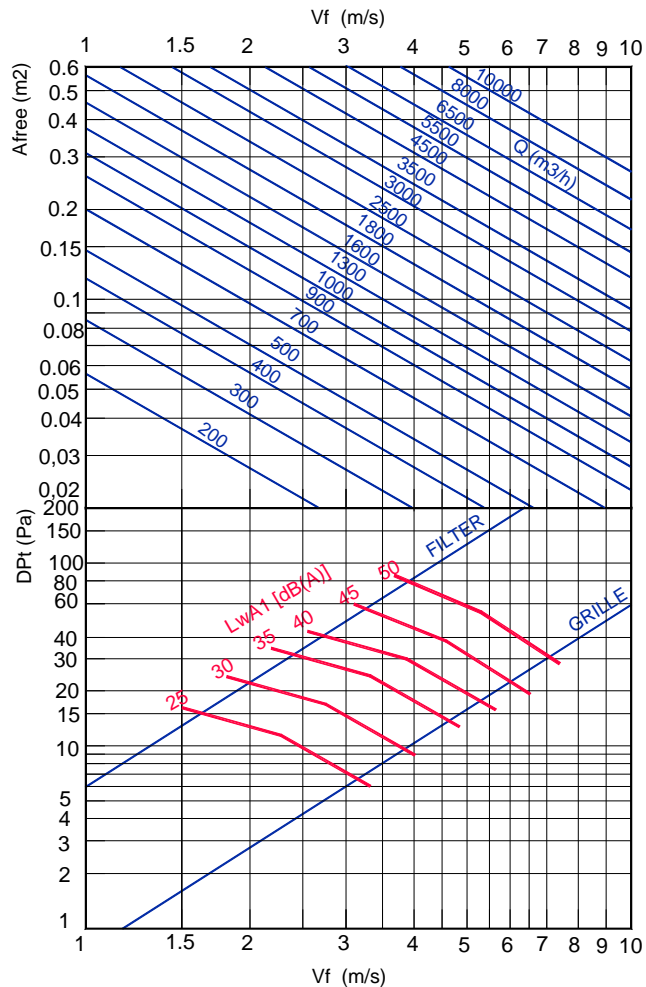
**DMT**

FREE FACE AREA m2.

| H \ L | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 600   | 700   | 800   | 900   | 1000  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 100   | 0,007 | 0,011 | 0,013 | 0,016 | 0,018 | 0,021 | 0,024 | 0,027 | 0,032 | 0,037 | 0,043 | 0,048 | 0,054 |
| 150   | 0,012 | 0,016 | 0,021 | 0,025 | 0,029 | 0,033 | 0,038 | 0,042 | 0,051 | 0,059 | 0,068 | 0,076 | 0,085 |
| 200   | 0,016 | 0,022 | 0,028 | 0,034 | 0,040 | 0,046 | 0,052 | 0,057 | 0,070 | 0,081 | 0,093 | 0,105 | 0,117 |
| 250   | 0,020 | 0,028 | 0,035 | 0,043 | 0,050 | 0,058 | 0,065 | 0,073 | 0,088 | 0,103 | 0,118 | 0,133 | 0,148 |
| 300   | 0,025 | 0,034 | 0,043 | 0,052 | 0,061 | 0,070 | 0,079 | 0,088 | 0,107 | 0,125 | 0,143 | 0,161 | 0,180 |
| 350   | 0,029 | 0,040 | 0,050 | 0,061 | 0,072 | 0,083 | 0,093 | 0,104 | 0,125 | 0,147 | 0,168 | 0,190 | 0,211 |
| 400   | 0,033 | 0,046 | 0,058 | 0,070 | 0,083 | 0,095 | 0,107 | 0,120 | 0,144 | 0,169 | 0,193 | 0,218 | 0,243 |
| 450   | 0,038 | 0,052 | 0,065 | 0,079 | 0,093 | 0,107 | 0,121 | 0,135 | 0,163 | 0,191 | 0,218 | 0,246 | 0,274 |
| 500   | 0,042 | 0,057 | 0,073 | 0,089 | 0,104 | 0,120 | 0,135 | 0,151 | 0,182 | 0,213 | 0,244 | 0,275 | 0,306 |
| 600   | 0,051 | 0,069 | 0,088 | 0,107 | 0,125 | 0,144 | 0,163 | 0,182 | 0,219 | 0,257 | 0,294 | 0,331 | 0,369 |



FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.



RECOMMENDED VELOCITY.

| Vmin<br>m/s | Vmax<br>m/s |
|-------------|-------------|
| 1,5         | 3           |

Determination of air flow.  
Measuring the Vf in different points of the grille, we find the Vfmed.

$$Q \text{ (l/s)} = V_{fmed} \text{ (m/s)} \cdot A_{free} \text{ (m}^2\text{)} \cdot 1000$$

$$Q \text{ (m}^3\text{/h)} = V_{fmed} \text{ (m/s)} \cdot A_{free} \text{ (m}^2\text{)} \cdot 3600$$

CORRECTION FACTOR FOR Lwa1.

| Afree m2 | 0,01 | 0,02 | 0,05 | 0,1 | 0,2 | 0,4 |
|----------|------|------|------|-----|-----|-----|
| Lwa1(kf) | -9   | -6   | -3   | -   | +4  | +7  |

Weighted noise level related to  
Afree = 0,1m2.

$$Lwa = Lwa1 + Kf$$

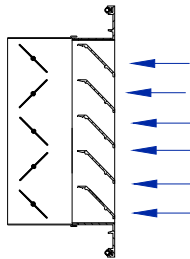


**DMT**

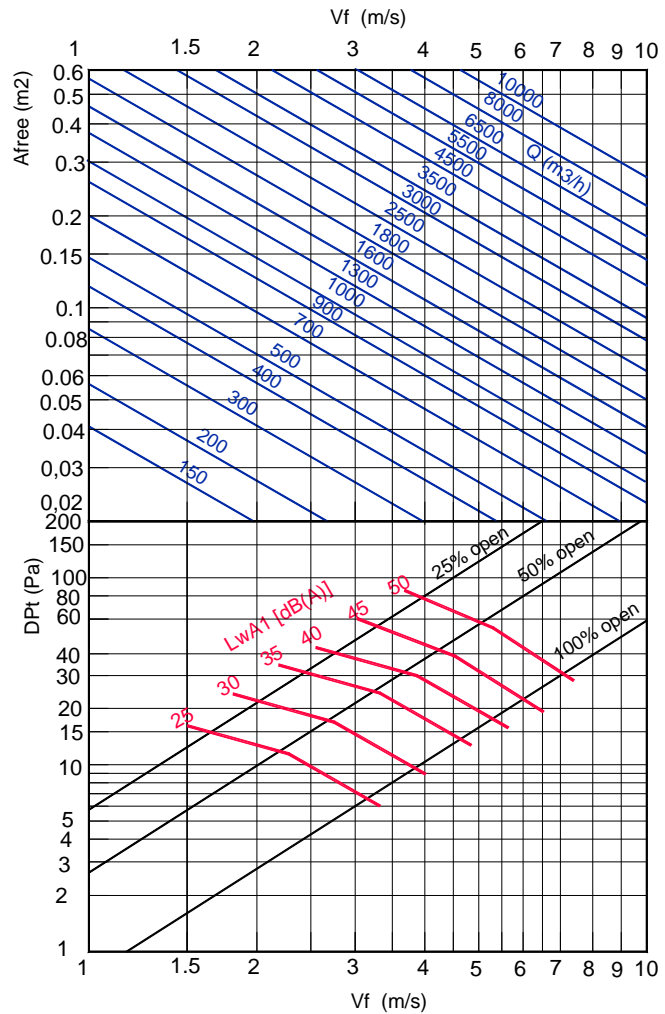
FREE FACE AREA m2.

| H \ L | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 600   | 700   | 800   | 900   | 1000  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 100   | 0,007 | 0,011 | 0,013 | 0,016 | 0,018 | 0,021 | 0,024 | 0,027 | 0,032 | 0,037 | 0,043 | 0,048 | 0,054 |
| 150   | 0,012 | 0,016 | 0,021 | 0,025 | 0,029 | 0,033 | 0,038 | 0,042 | 0,051 | 0,059 | 0,068 | 0,076 | 0,085 |
| 200   | 0,016 | 0,022 | 0,028 | 0,034 | 0,040 | 0,046 | 0,052 | 0,057 | 0,070 | 0,081 | 0,093 | 0,105 | 0,117 |
| 250   | 0,020 | 0,028 | 0,035 | 0,043 | 0,050 | 0,058 | 0,065 | 0,073 | 0,088 | 0,103 | 0,118 | 0,133 | 0,148 |
| 300   | 0,025 | 0,034 | 0,043 | 0,052 | 0,061 | 0,070 | 0,079 | 0,088 | 0,107 | 0,125 | 0,143 | 0,161 | 0,180 |
| 350   | 0,029 | 0,040 | 0,050 | 0,061 | 0,072 | 0,083 | 0,093 | 0,104 | 0,125 | 0,147 | 0,168 | 0,190 | 0,211 |
| 400   | 0,033 | 0,046 | 0,058 | 0,070 | 0,083 | 0,095 | 0,107 | 0,120 | 0,144 | 0,169 | 0,193 | 0,218 | 0,243 |
| 450   | 0,038 | 0,052 | 0,065 | 0,079 | 0,093 | 0,107 | 0,121 | 0,135 | 0,163 | 0,191 | 0,218 | 0,246 | 0,274 |
| 500   | 0,042 | 0,057 | 0,073 | 0,089 | 0,104 | 0,120 | 0,135 | 0,151 | 0,182 | 0,213 | 0,244 | 0,275 | 0,306 |
| 600   | 0,051 | 0,069 | 0,088 | 0,107 | 0,125 | 0,144 | 0,163 | 0,182 | 0,219 | 0,257 | 0,294 | 0,331 | 0,369 |

**DMT+SP**



FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.



RECOMMENDED VELOCITY.

| Vmin<br>m/s | Vmax<br>m/s |
|-------------|-------------|
| 1,5         | 3           |

Determination of air flow.  
Measuring the Vf in different points of the grille, we find the Vfmed.

$$Q \text{ (l/s)} = V_{\text{fmed}} \text{ (m/s)} * A_{\text{free}} \text{ (m}^2\text{)} * 1000$$

$$Q \text{ (m}^3\text{/h)} = V_{\text{fmed}} \text{ (m/s)} * A_{\text{free}} \text{ (m}^2\text{)} * 3600$$

CORRECTION FACTOR FOR Lwa1.

| Afree m2 | 0,01 | 0,02 | 0,05 | 0,1 | 0,2 | 0,4 |
|----------|------|------|------|-----|-----|-----|
| Lwa1(kf) | -9   | -6   | -3   | -   | +4  | +7  |

Weighted noise level related to Afree = 0,1m2.

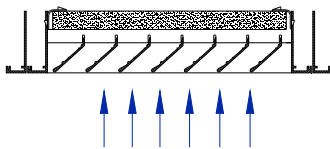
$$L_{\text{wa}} = L_{\text{wa1}} + K_{\text{f}}$$

## DMT-KLIN

FREE FACE AREA m2.

| L x H   |       |
|---------|-------|
| 600x600 | 0,200 |
| 625x625 | 0,208 |
| 675x675 | 0,225 |
| 600x300 | 0,1   |
| 625x313 | 0,108 |
| 675x338 | 0,126 |

### DMT-KLIN + PFT



RECOMMENDED VELOCITY.

| Vmin<br>m/s | Vmax<br>m/s |
|-------------|-------------|
| 1,5         | 3           |

Determination of air flow.  
Measuring the Vf in different points  
of the grille, we find the Vfmed.

$$Q \text{ (l/s)} = V_{\text{fmed}} \text{ (m/s)} * A_{\text{free}} \text{ (m}^2\text{)} * 1000$$

$$Q \text{ (m}^3\text{/h)} = V_{\text{fmed}} \text{ (m/s)} * A_{\text{free}} \text{ (m}^2\text{)} * 3600$$

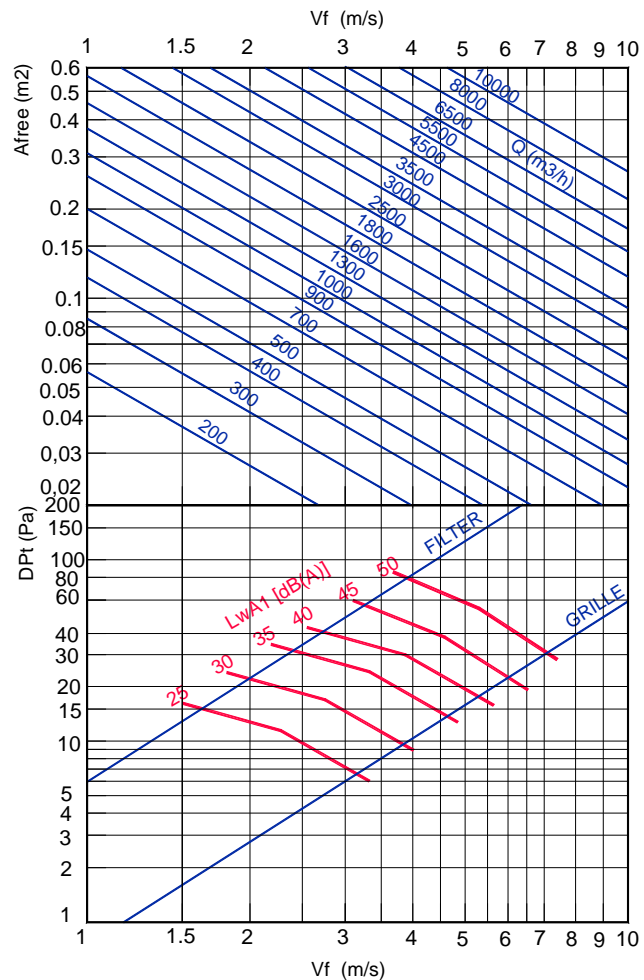
CORRECTION FACTOR FOR Lwa1.

| Afree m2 | 0,01 | 0,02 | 0,05 | 0,1 | 0,2 | 0,4 |
|----------|------|------|------|-----|-----|-----|
| Lwa1(kf) | -9   | -6   | -3   | -   | +4  | +7  |

Weighted noise level related to  
Afree = 0,1m2.

$$Lwa = Lwa1 + Kf$$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.



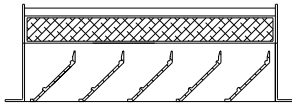
## DMT-MOD

FREE FACE AREA m2.

| L x H    |       |
|----------|-------|
| 595x295  | 0,107 |
| 1195x295 | 0,215 |
| 595x595  | 0,215 |
| 1195x595 | 0,43  |
| 620x620  | 0,224 |
| 670x670  | 0,242 |

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.

### DMT-MOD + PFT



RECOMMENDED VELOCITY.

| Vmin<br>m/s | Vmax<br>m/s |
|-------------|-------------|
| 1,5         | 3           |

Determination of air flow.  
Measuring the Vf in different points  
of the grille, we find the Vfmed.

$$Q \text{ (l/s)} = V_{fmed} \text{ (m/s)} * A_{free} \text{ (m}^2) * 1000$$

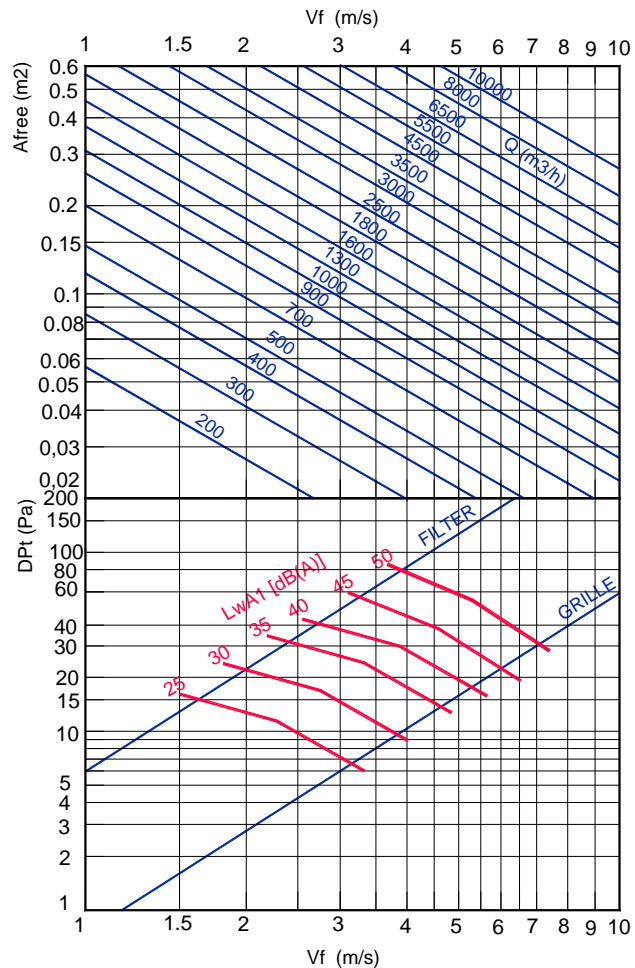
$$Q \text{ (m}^3\text{/h)} = V_{fmed} \text{ (m/s)} * A_{free} \text{ (m}^2) * 3600$$

CORRECTION FACTOR FOR Lwa1.

| Afree m2 | 0,01 | 0,02 | 0,05 | 0,1 | 0,2 | 0,4 |
|----------|------|------|------|-----|-----|-----|
| Lwa1(kf) | -9   | -6   | -3   | -   | +4  | +7  |

Weighted noise level related to  
Afree = 0,1m2.

$$Lwa = Lwa1 + Kf$$

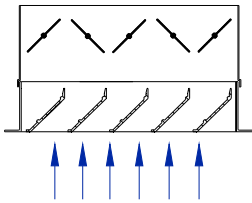


## DMT-MOD

FREE FACE AREA m<sup>2</sup>.

| L x H    |       |
|----------|-------|
| 595x295  | 0,107 |
| 1195x295 | 0,215 |
| 595x595  | 0,215 |
| 1195x595 | 0,43  |
| 620x620  | 0,224 |
| 670x670  | 0,242 |

### DMT-MOD +SP



RECOMMENDED VELOCITY.

| Vmin<br>m/s | Vmax<br>m/s |
|-------------|-------------|
| 1,5         | 3           |

Determination of air flow.  
Measuring the Vf in different points  
of the grille, we find the Vfmed.

$$Q \text{ (l/s)} = V_{fmed} \text{ (m/s)} * A_{free} \text{ (m}^2) * 1000$$

$$Q \text{ (m}^3\text{/h)} = V_{fmed} \text{ (m/s)} * A_{free} \text{ (m}^2) * 3600$$

CORRECTION FACTOR FOR Lwa1.

| Afree m <sup>2</sup> | 0,01 | 0,02 | 0,05 | 0,1 | 0,2 | 0,4 |
|----------------------|------|------|------|-----|-----|-----|
| Lwa1(kf)             | -9   | -6   | -3   | -   | +4  | +7  |

Weighted noise level related to  
Afree = 0,1m<sup>2</sup>.

$$L_{wa} = L_{wa1} + K_f$$

FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.

