# DAM01

Helical-effect diffuser with radially arranged adjustable deflectors with a high induction ratio (mixing capacity) between the injected and the ambient air. Made up of a plate with holes inside which adjustable plastic deflectors are housed suitable for use at high operating temperatures.

The helical flow of the air injected can be oriented clockwise, anticlockwise or alternating by changing the position of the deflectors.

## TECHNICAL SPECIFICATION AND USAGE LIMIT

| INSTALLATION HEIGHT | APPLICATIONS | MATERIAL | SURFACE FINISH | COLOR | FASTENING |
|---|---|---|---|---|---|
| 2,5 to 4 m | The diffuser can also be used for air return; in this case it is supplied without deflecting fins. The deflectors can also be oriented after the diffuser has been installed in order to make adjustments to optimise airflow in the room once the system is running. | Painted steel panel, ABS supports and black PVC deflectors | Epoxy powder coating resistant to impact and abrasion | RAL 9010 white. On request, coating in non-standard RAL colors. | by means of side screws or a central screw |
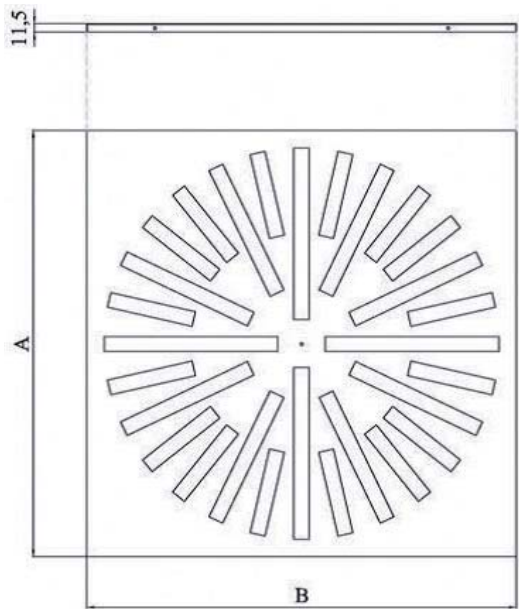
## GREEN BUILDING

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## TECHNICAL DATA

| Model | Ø A [mm] | Ø B [mm] |
|---|---|---|
| DAM01 300 | 295 | 295 |
| DAM01 400 | 395 | 395 |
| DAM01 500 | 495 | 495 |
| DAM01 600 | 595 | 595 |
| DAM01 625 | 625 | 625 |
| DAM01 800 | 795 | 795 |

**TECNICA**
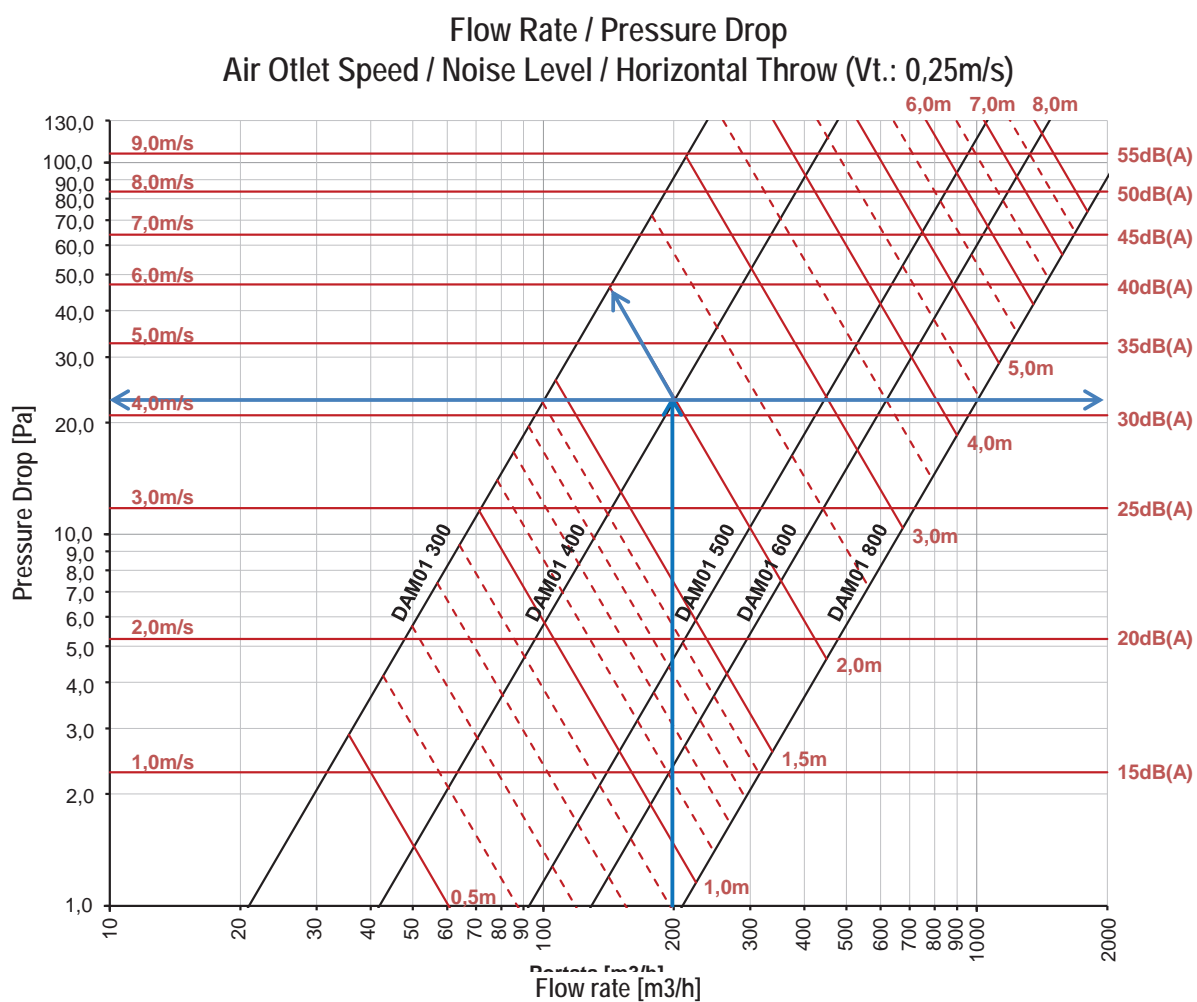Efficient Indoor Air Project

*on request

## Selection charts

### Flow Rate / Pressure Drop
### Air Otlet Speed / Noise Level / Horizontal Throw (Vt.: 0,25m/s)



Flow rate [m3/h]

### CALCULATION (input data)

| | |
|---|---|
| Total Flow Rate | 2000 m³/h |
| Max Noise Level | 35dB(A) |
| Number of diffusers expected | 10pz. |
| Horizontal Isothermal Throw | 2,00m |

### SELECTION

| | |
|---|---|
| Model | DAM01 400 |
| Flow Rate | 200 m³/h |
| Pressure Drop | +/- 23Pa |
| Noise Level | 33dB(A) |
| Inlet Air Speed | Flow Rate/ (Ak * 3600) = 4,17m/s |
| Horizontal Isothermal Throw | 2,0m |

## Diagram 1

The diagram shows the diffuser pressure drop based on the flow rate with relative indication of the noise level without environmental attenuation, air outlet speed and horizontal throw with terminal speed equal to 0.25m/s.

**Note:** Pressure drop data shown in the diagram refer to the diffuser with the damper fully open.

| MODEL | DESCRIPTION | U.M. | Vi (m/sec) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **DAM01 300** Ak: 0,0067m2 | Flow Rate | m3/h | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 215 | 239 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 0,3 | 0,7 | 1,0 | 1,3 | 1,7 | 2,0 | 2,4 | 2,7 | 3,0 | 3,4 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| **DAM01 400** Ak: 0,0133m2 | Flow Rate | m3/h | 48 | 96 | 144 | 192 | 239 | 287 | 335 | 383 | 431 | 479 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 0,5 | 1,0 | 1,4 | 1,9 | 2,4 | 2,9 | 3,3 | 3,8 | 4,3 | 4,8 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| **DAM01 500** Ak: 0,0295m2 | Flow Rate | m3/h | 106 | 212 | 318 | 424 | 530 | 636 | 742 | 848 | 954 | 1060 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 0,7 | 1,4 | 2,1 | 2,8 | 3,5 | 4,2 | 5,0 | 5,7 | 6,4 | 7,1 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| **DAM01 600** Ak: 0,0410m2 | Flow Rate | m3/h | 148 | 295 | 443 | 590 | 738 | 886 | 1033 | 1181 | 1328 | 1476 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 0,8 | 1,7 | 2,5 | 3,3 | 4,2 | 5,0 | 5,8 | 6,7 | 7,5 | 8,4 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| **DAM01 625** Ak: 0,0410m2 | Flow Rate | m3/h | 148 | 295 | 443 | 590 | 738 | 886 | 1033 | 1181 | 1328 | 1476 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 0,8 | 1,7 | 2,5 | 3,3 | 4,2 | 5,0 | 5,8 | 6,7 | 7,5 | 8,4 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| **DAM01 800** Ak: 0,0665m2 | Flow Rate | m3/h | 239 | 479 | 718 | 958 | 1197 | 1436 | 1676 | 1915 | 2155 | 2394 |
| | Pressure Drop | Pa | 1 | 5 | 12 | 21 | 33 | 47 | 64 | 84 | 106 | 131 |
| | Horizontal Throw Vt 0,25m/s | mt | 1,1 | 2,1 | 3,2 | 4,3 | 5,3 | 6,4 | 7,4 | 8,5 | 9,6 | 10,6 |
| | Noise Level | dB(A) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |

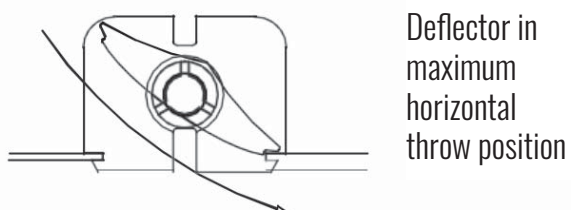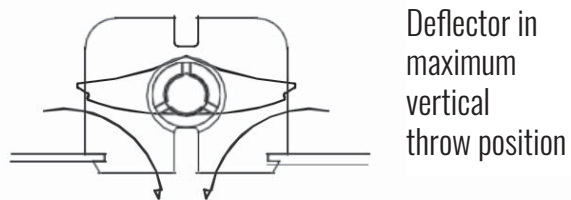**TECNICA** Efficient Indoor Air Project
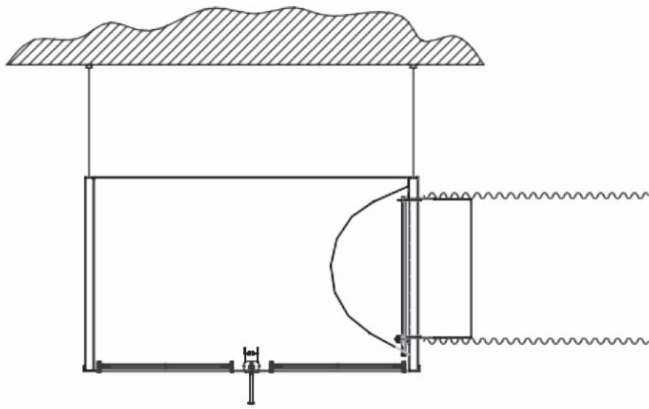
FIG. 1
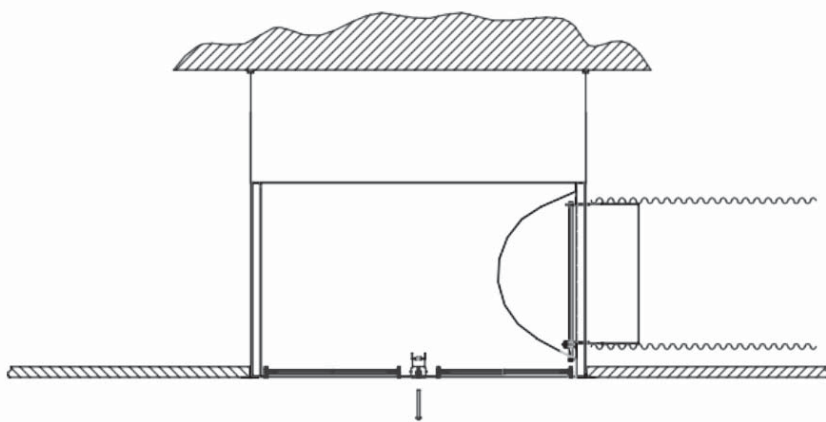
FIG. 2

Deflector in maximum horizontal throw position

Deflector in maximum vertical throw position

FIG. 3

Easy installation, adjustments and maintenance. The diffusers are fastened to the plenum by means of side screws or a central screw.

## Adjustment

The airflow distribution is manually adjusted by acting on the deflectors that are fitted with a snap positioning device so that they stay in position during operation.

### Fig. 1 Installation with plenum fastened on the ceiling

- Hang the plenum on the ceiling using brackets or chains fastened on the plenum whose outer edge can be drilled.
- Fit the flexible duct on the connecting sleeve and fasten it with a hose clamp.
- Make a preliminary adjustment to the damper by acting on the pin with Allen screw and tightening the hexagonal-head screw that fastens the pin.
- Fit the diffuser using either a central screw screwing it onto the plenum bridge (if provided) or 4 self-tapping side screws.

### Fig. 2 Installation on the false ceiling

- Hang the false ceiling elements on the ceiling.
- Make a preliminary adjustment to the damper by acting on the pin with Allen screw and tightening the hexagonalhead screw that fastens the pin.
- Fit the flexible duct on the connecting sleeve and fasten it with a hose clamp.
- Fit the diffuser using either a central screw screwing it onto the plenum bridge (if provided) or 4 self-tapping side screws.
- Rest the diffuser pre-fitted on the plenum on the square space of the false ceiling.

### Fig. 3 Movable deflector adjustment

- The movable deflectors can be adjusted from an angle of 0° (maximum vertical throw position used in heating) to a maximum angle (maximum horizontal throw position used in cooling).

The deflectors are fitted with a snap positioning device in order to guarantee accuracy and always correct positioning even with high flow rates and velocities.