

DYNFLOW



Product Catalog

www.saif-qatar.com

SQUARE CEILING DIFFUSER

| | |
|--------------------------------------|---|
| <i>SQUARE CEILING DIFFUSER</i> | 1 |
|--------------------------------------|---|

WALL GRILL

| | |
|-------------------------|----|
| <i>WALL GRILL</i> | 17 |
|-------------------------|----|

DECORATIVE GRILL

| | |
|-------------------------------|----|
| <i>DECORATIVE GRILL</i> | 28 |
|-------------------------------|----|

SLOT DIFFUSER

| | |
|----------------------------|----|
| <i>SLOT DIFFUSER</i> | 31 |
|----------------------------|----|

LINEAR GRILL

| | |
|---------------------------|----|
| <i>LINEAR GRILL</i> | 44 |
|---------------------------|----|

WEATHER LOUVER

| | |
|-----------------------------|----|
| <i>WEATHER LOUVER</i> | 53 |
|-----------------------------|----|

SANDTRAP LOUVER

| | |
|------------------------------|----|
| <i>SANDTRAP LOUVER</i> | 56 |
|------------------------------|----|

FLOOR GRILLIE

| | |
|----------------------------|----|
| <i>FLOOR GRILLIE</i> | 59 |
|----------------------------|----|

CEILING SWIRL DIFFUSERS

| | |
|--------------------------------------|----|
| <i>CEILING SWIRL DIFFUSERS</i> | 66 |
|--------------------------------------|----|

DAMPERS

| | |
|----------------------|----|
| <i>DAMPERS</i> | 70 |
|----------------------|----|

NON RETURN DAMPER

| | |
|--------------------------------|----|
| <i>NON RETURN DAMPER</i> | 81 |
|--------------------------------|----|

BYPASS TERMINAL UNITS

| | |
|------------------------------------|----|
| <i>BYPASS TERMINAL UNITS</i> | 83 |
|------------------------------------|----|

SPLITTER SOUND ATTENUATORS

| | |
|---|----|
| <i>SPLITTER SOUND ATTENUATORS</i> | 90 |
|---|----|

ACCESS DOOR

| | |
|--------------------------|-----|
| <i>ACCESS DOOR</i> | 104 |
|--------------------------|-----|

JET DIFFUSER

| | |
|---------------------------|-----|
| <i>JET DIFFUSER</i> | 105 |
|---------------------------|-----|

DISC VALVES

| | |
|--------------------------|-----|
| <i>DISC VALVES</i> | 109 |
|--------------------------|-----|

EGG CRATE GRILLES

| | |
|--------------------------------|-----|
| <i>EGG CRATE GRILLES</i> | 120 |
|--------------------------------|-----|

CERTIFICATE

| | |
|--------------------------|-----|
| <i>CERTIFICATE</i> | 124 |
|--------------------------|-----|

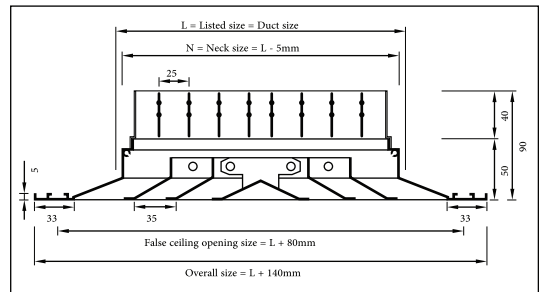
SUPPLY AIR SQUARE CEILING DIFFUSER TWO Way Throw

CONSTRUCTION:

Frame and core: High quality extruded aluminium profile with 33 mm flange width.
 Damper frame and core: High quality extruded aluminium profile with natural aluminium finish.
 Black matt finish as option.

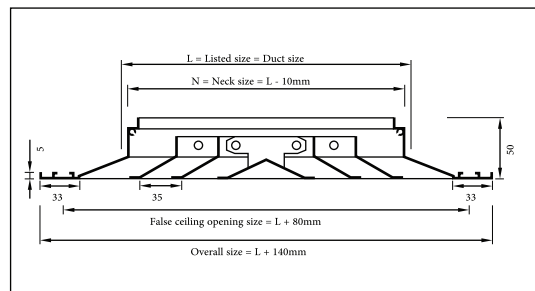
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharges air in both the ways, either X or Y directions as per pattern arrangement.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.



Model ACD2:

Same as ACD+2D, but without opposed blade damper and foam gasket. Suitable for return air applications.



SUPPLY AIR SQUARE CEILING DIFFUSER TWO WAY CORNER THROW

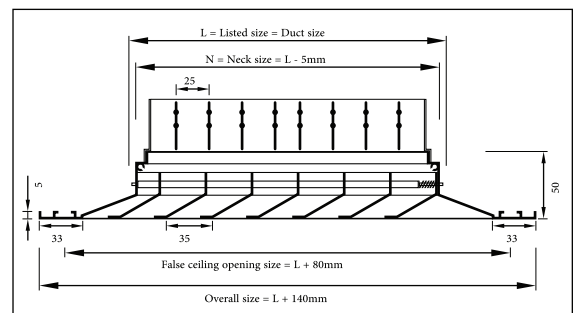
CONSTRUCTION:

Frame and core: High quality extruded aluminium profile with 33 mm flange width.
 Damper frame and core: High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.



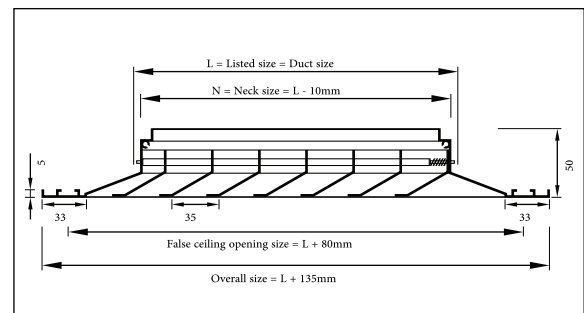
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharges air in one way, equally in X and Y direction.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.



Model ACD2C:

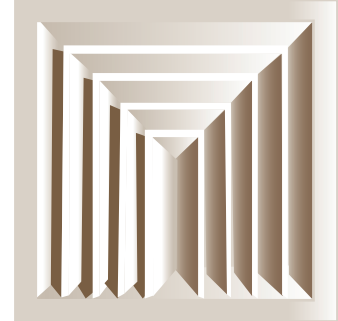
Same as ACD2C+D, but without opposed blade damper and foam gasket. Suitable for return air applications.



SUPPLY AIR SQUARE CEILING DIFFUSER THREE Way Throw

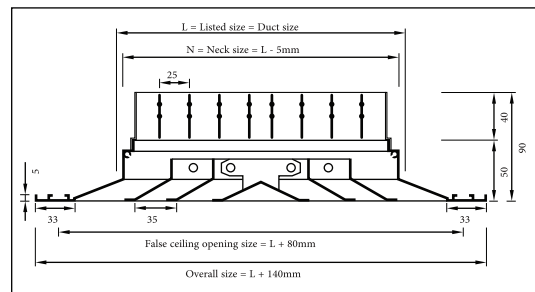
CONSTRUCTION:

Frame and core: High quality extruded aluminium profile with 33 mm flange width.
 Damper frame and core: High quality extruded aluminium profile with natural aluminium finish.
 Black matt finish as option.



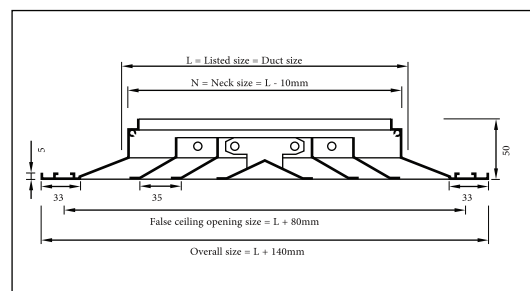
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharges air in one way, equally in X and Y direction.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.



Model ACD3:

Same as ACD+3D, but without opposed blade damper and foam gasket. Suitable for return air applications.



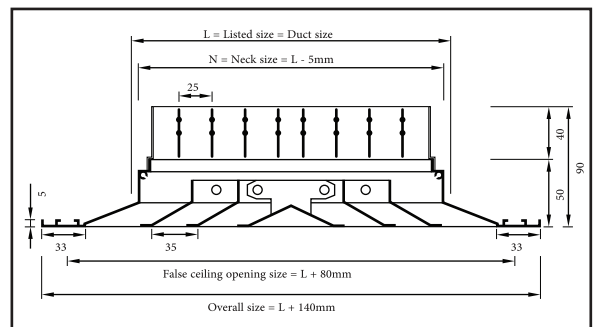
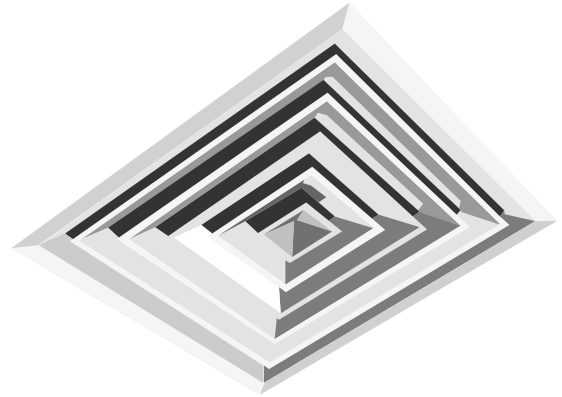
SUPPLY AIR SQUARE CEILING DIFFUSER FOUR Way Throw

CONSTRUCTION:

Frame and core: High quality extruded aluminium profile with 33 mm flange width. Damper frame and core: High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option. Optional diffuser frame: Stamped aluminium core.

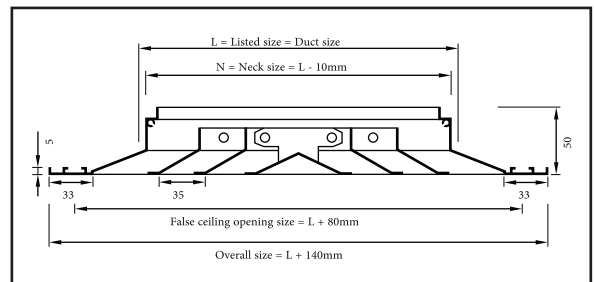
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Diffusers shall be coned type with each cone manufactured by extruded aluminium louvered profiles or one piece die formed aluminium construction – arranged in concentric cones to deflect air equally in four directions.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharge air equally in four horizontal directions.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option. Suitable for flush mounting in lay in type ceiling.



Model ACD4:

Same as ACD+4D, but without opposed blade damper and foam gasket. Suitable for return air applications.



STANDARD FINISHES, SIZES, FIXING DETAILS & PRODUCT SUMMARY

Standard finishes:

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

Standard sizes:

- Available in square and rectangular sizes
- Any combination of W x D.

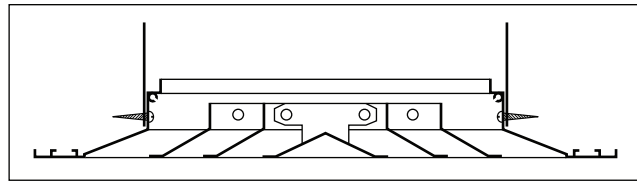
| | | | | | | | |
|------------------------|-----|-----|-----|-----|-----|-----|-----|
| W = width in mm | 150 | 225 | 300 | 375 | 450 | 525 | 600 |
| D = Depth in mm | 150 | 225 | 300 | 375 | 450 | 525 | 600 |

False ceiling sizes:

| | | | | | | | |
|-----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Duct size in mm x mm | 150 x 150 | 225 x 225 | 300 x 300 | 375 x 375 | 450 x 450 | 525 x 525 | 600 x 600 |
| False ceiling opening size | 230 x 230 | 305 x 305 | 380 x 380 | 455 x 455 | 530 x 530 | 605 x 605 | 605 x 605 |

Fixing details:

- Concealed screw fixing from neck of the diffuser to the duct, after removing the inner core.



Product summary:

| Model Number | Product Description | Remarks |
|-------------------|------------------------------------|---|
| ACD+1D | Supply Air Diffuser – 1 way | <ul style="list-style-type: none"> • With damper • Optional accessories • Filter • Equalizing grid • Plenum (chapter 15) |
| ACD+2D | Supply Air Diffuser – 2 way | |
| ACD2C+D | Supply Air Diffuser – 2 way corner | |
| ACD+3D | Supply Air Diffuser – 3 way | |
| ACD+4D | Supply Air Diffuser – 4 way | |
| ACD+4D(AS) | Supply Air Diffuser – Anti smudge | |
| ACD4R+D | Supply Air Diffuser – rectangular | |
| ACD1 | Return Air Diffuser – 1 way | |
| ACD2 | Return Air Diffuser – 2 way | |
| ACD2C | Return Air Diffuser – 2 way corner | |
| ACD3 | Return Air Diffuser – 3 way | |
| ACD4 | Return Air Diffuser – 4 way | |
| ACD4(AS) | Return Air Diffuser – Anti smudge | |
| ACD4R | Return Air Diffuser – rectangular | |
| ACCD | Combined Ceiling Diffuser | |
| ACDM | Ceiling Tile Replacement Diffuser | |
| ACBD | Curved Blade Adjustable Diffuser | |
| ASD-A | Swirl Diffuser – Adjustable | |
| ASD-F | Swirl Diffuser – Fixed | |

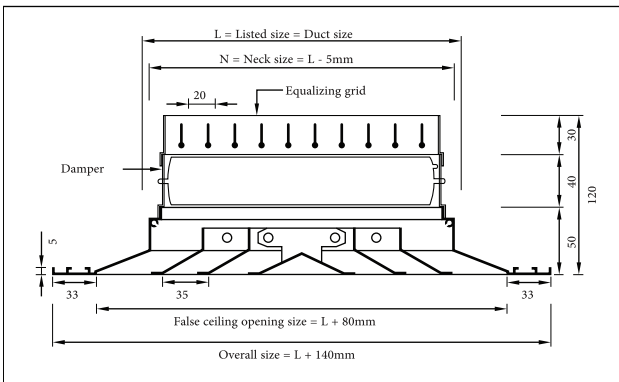
Product order checklist:

- Model number (please refer product summary).
- Size.
- Colour (RAL 9010, 9016, Anodized aluminium finish or other RAL Colours)
- Quantity.
- Optional accessories.

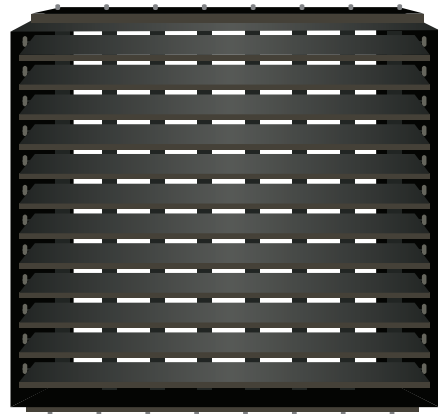
DIFFUSER ACCESSORIS

1. EQUALIZING GRID:

- Equalizing grid is fixed to the damper by rivets.
- Equalizing grid is manufactured from high quality aluminium profiles with aerofoil blades connected by plastic bushes. Finish will be same as damper.



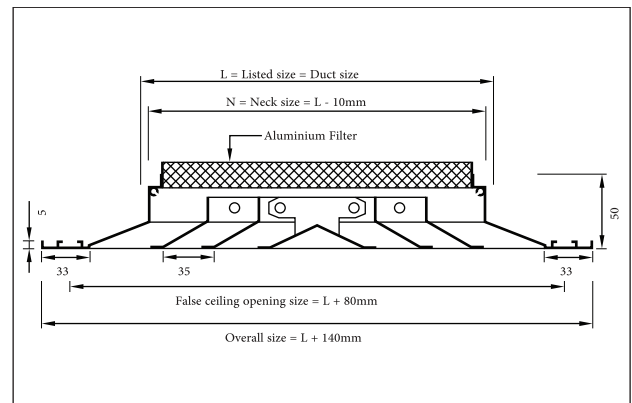
- This assembly will provide uniform air distribution over the neck of the diffuser, which ensures reduction in pressure drop, noise and turbulence.
- To order, mention model from Product summary + E.



2. FILTERS:

- Ceiling diffusers available with removable type washable aluminium filters with aluminium mesh as the filter media.
- Fabricated from 1 mm thick aluminium sheet with aluminium mesh as the filter media.
- Filter frame is screw fixed to the diffuser.
- Generally available in 40 ,25 ,12 and 50 mm thickness as standard.
- Structure will have high dust holding capacity and low resistance to air flow.
- Other insulating materials available as option.

To order, mention model from product summary + F.



SUPPLY AIR SQUARE CEILING DIFFUSER ONE Way Throw

Table 6.1 Air flow data

| Neck size in mm x mm Area factor In m ² | Neck vel in m/sec | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 |
|--|---------------------------------------|--------------|--------------|--------------|---------------|--------------|---------------|
| 150 x 150 0.0098 | Cfm | 47 | 72 | 95 | 119 | 144 | 167 |
| | M ³ /sec. | 0.023 | 0.034 | 0.045 | 0.056 | 0.068 | 0.079 |
| | P _s in mm H ₂ O | 0.69 | 1.05 | 2.11 | 3.54 | 4.98 | 6.44 |
| | Throw in m | 2.7-2-1.3 | 3.6-2.8-2 | 4.4-3.7-2.8 | 4.9-4.2-3.3 | 5.9-4.7-4 | 6.2-5.5-4.4 |
| | NC | <15 | 16 | 21 | 27 | 34 | 39 |
| 225 x 225 0.018 | Cfm | 108 | 161 | 214 | 269 | 322 | 375 |
| | M ³ /sec. | 0.051 | 0.076 | 0.101 | 0.127 | 0.152 | 0.177 |
| | P _s in mm H ₂ O | 0.69 | 1.37 | 2.8 | 4.26 | 6.05 | 8.23 |
| | Throw in m | 2.7-2-1.3 | 3.9-2.8-2.0 | 5.2-3.7-2.9 | 6.8-5.3-3.8 | 9.3-7-5.1 | 11.6-8.6-7 |
| | NC | <15 | 17 | 24 | 30 | 36 | 41 |
| 300 x 300 0.03 | Cfm | 191 | 286 | 381 | 476 | 572 | 667 |
| | M ³ /sec. | 0.09 | 0.135 | 0.18 | 0.225 | 0.27 | 0.31 |
| | P _s in mm H ₂ O | 0.69 | 1.75 | 3.17 | 5.31 | 7.46 | 10.4 |
| | Throw in m | 5.5-3.5-2.4 | 7.1-5.0-3.6 | 8.8-5.9-4.8 | 9.8-7.2-5.7 | 11-7.4-6.3 | 12.5-8.6-7 |
| | NC | <15 | 17 | 26 | 33 | 38 | 43 |
| 375 x 375 0.046 | Cfm | 299 | 447 | 595 | 745 | 893 | 1042 |
| | M ³ /sec. | 0.141 | 0.211 | 0.281 | 0.352 | 0.422 | 0.492 |
| | P _s in mm H ₂ O | 1.03 | 2.09 | 3.52 | 5.66 | 8.18 | 11.46 |
| | Throw in m | 6.2-4.1-2.7 | 8.8-6.4-4.6 | 10.6-7.3-6.2 | 12.5-8.7-7.2 | 14.5-7-9-7.8 | 15.6-10.5-8.6 |
| | NC | <15 | 18 | 28 | 35 | 40 | 44 |
| 450 x 450 0.0695 | Cfm | 430 | 644 | 858 | 1071 | 1287 | 1501 |
| | M ³ /sec. | 0.203 | 0.304 | 0.405 | 0.506 | 0.608 | 0.709 |
| | P _s in mm H ₂ O | 1.03 | 2.09 | 3.86 | 6.38 | 9.24 | 11.46 |
| | Throw in m | 8.5-5.2-3.5 | 10.6-7.4-5.3 | 12.8-9.1-7.9 | 15-5-10.5-8.3 | 17-11.8-9.7 | 18-13-10.5 |
| | NC | <15 | 20 | 30 | 36 | 41 | 44 |
| 525 x 525 0.099 | Cfm | 585 | 875 | 1165 | 1461 | 1757 | 2033 |
| | M ³ /sec. | 0.276 | 0.413 | 0.55 | 0.69 | 0.83 | 0.96 |
| | P _s in mm H ₂ O | 1.03 | 2.45 | 4.22 | 6.74 | 9.6 | 11.83 |
| | Throw in m | 9.5-5.8-4.1 | 12.6-8.8-6 | 15-10.2-8.4 | 17.4-12-9.8 | 20-14-10.9 | 21.5-14.8-12 |
| | NC | 15 | 23 | 32 | 37 | 42 | 45 |
| 600 x 600 0.139 | Cfm | 762 | 1143 | 1524 | 1906 | 2287 | 2668 |
| | M ³ /sec. | 0.36 | 0.54 | 0.72 | 0.9 | 1.08 | 1.26 |
| | P _s in mm H ₂ O | 1.03 | 2.45 | 4.22 | 6.74 | 9.6 | 11.83 |
| | Throw in m | 11.6-6.5-4.5 | 14-9.1-6.7 | 17.1-12-9.1 | 20-14-10.5 | 23-16-12 | 24-17.2-12.8 |
| | NC | 16 | 26 | 33 | 38 | 42 | 45 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

SUPPLY AIR SQUARE CEILING DIFFUSER TWO Way Throw

Table 6.2 Air flow data

| Neck size in mm x mm Area factor In m ² | Neck vel in m/sec | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 |
|--|---------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|
| 150 x 150 0.0096 | Cfm | 47 | 72 | 95 | 119 | 144 | 167 |
| | M ³ /sec. | 0.023 | 0.034 | 0.045 | 0.056 | 0.068 | 0.079 |
| | P _s in mm H ₂ O | 0.64 | 0.87 | 2.02 | 3.41 | 4.83 | 6.1 |
| | Throw in m | 2.7-2-1.3 | 3.6-2.8-2 | 4.4-3.7-2.8 | 4.8-4-3.2 | 5.6-4.5-3.8 | 6-5.2-4.1 |
| | NC | <15 | 16 | 21 | 27 | 34 | 39 |
| 225 x 225 0.0175 | Cfm | 108 | 161 | 214 | 269 | 322 | 375 |
| | M ³ /sec. | 0.051 | 0.076 | 0.101 | 0.127 | 0.152 | 0.177 |
| | P _s in mm H ₂ O | 0.64 | 1.29 | 2.7 | 4.1 | 5.86 | 7.77 |
| | Throw in m | 2.7-2-1.3 | 3.9-2.8-2 | 5.1-3.7-2.8 | 6.6-5.2-3.7 | 9-6.7-4.8 | 11-8.2-6.7 |
| | NC | <15 | 17 | 24 | 30 | 36 | 41 |
| 300 x 300 0.029 | Cfm | 191 | 286 | 381 | 476 | 572 | 667 |
| | M ³ /sec. | 0.09 | 0.135 | 0.18 | 0.225 | 0.27 | 0.315 |
| | P _s in mm H ₂ O | 0.64 | 1.64 | 3.05 | 5.1 | 7.23 | 9.81 |
| | Throw in m | 5.5-3.5-2.4 | 7-4.9-3.6 | 8.6-5.8-4.7 | 9.5-6.9-5.5 | 11-7.1-5.9 | 12-8.4-6.7 |
| | NC | <15 | 17 | 26 | 33 | 38 | 43 |
| 375 x 375 0.045 | Cfm | 299 | 447 | 595 | 745 | 893 | 1042 |
| | M ³ /sec. | 0.141 | 0.211 | 0.281 | 0.352 | 0.422 | 0.492 |
| | P _s in mm H ₂ O | 0.96 | 1.96 | 3.71 | 5.5 | 7.92 | 10.81 |
| | Throw in m | 6.2-4.1-2.7 | 8.7-6.3-4.6 | 10.4-7.2-6.1 | 12.1-8.4-6.9 | 14-9.3-7.4 | 14.9-10-8.1 |
| | NC | <15 | 18 | 28 | 35 | 40 | 44 |
| 450 x 450 0.068 | Cfm | 430 | 644 | 858 | 1071 | 1287 | 1501 |
| | M ³ /sec. | 0.203 | 0.304 | 0.405 | 0.506 | 0.608 | 0.709 |
| | P _s in mm H ₂ O | 0.96 | 1.96 | 4.06 | 6.68 | 8.9 | 12.16 |
| | Throw in m | 8.5-5.1-3.4 | 10-7.4-5.3 | 15-10-8.3 | 14.6-10-2-8 | 16.3-11-9.3 | 17-12.3-10 |
| | NC | <15 | 20 | 30 | 36 | 41 | 44 |
| 525 x 525 0.097 | Cfm | 585 | 875 | 1165 | 1461 | 1757 | 2033 |
| | M ³ /sec. | 0.276 | 0.413 | 0.55 | 0.69 | 0.83 | 0.96 |
| | P _s in mm H ₂ O | 0.96 | 2.29 | 4.06 | 6.49 | 9.31 | 11.1 |
| | Throw in m | 9.5-5.8-4.1 | 12.6-8.7-6 | 15-10-8.3 | 17-11.8-9.5 | 19-13.4-10.4 | 20-14.1-11.6 |
| | NC | 15 | 23 | 32 | 37 | 42 | 45 |
| 600 x 600 0.136 | Cfm | 762 | 1143 | 1524 | 1906 | 2287 | 2668 |
| | M ³ /sec. | 0.36 | 0.54 | 0.72 | 0.9 | 1.08 | 1.26 |
| | P _s in mm H ₂ O | 0.96 | 2.29 | 4.06 | 6.49 | 9.31 | 11.1 |
| | Throw in m | 11-6.5-4.5 | 14-9-6.6 | 16.9-11.8-9 | 19-13.6-10.2 | 22-15.2-11.4 | 23-16-12.2 |
| | NC | 16 | 26 | 33 | 38 | 42 | 45 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

SUPPLY AIR SQUARE CEILING DIFFUSER Three Way Throw

Table 6.3 Air flow data

| Neck size in mm x mm Area factor In m ² | Neck vel in m/sec | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 |
|---|--|-------------|-------------|-------------|--------------|--------------|--------------|
| 150 x 150 0.0095 | Total CFM | 47 | 72 | 95 | 119 | 144 | 167 |
| | Total M ³ / S e c | 0.023 | 0.034 | 0.045 | 0.056 | 0.068 | 0.079 |
| | M ³ /Sec each side of X | 0.008 | 0.013 | 0.017 | 0.021 | 0.025 | 0.03 |
| | M ³ /Sec in Y side | 0.007 | 0.008 | 0.011 | 0.014 | 0.018 | 0.019 |
| | P _s in mm of H ₂ O | 0.56 | 0.85 | 1.72 | 2.87 | 4.06 | 5.29 |
| | Throw in each side of X-(M) | 2.4-1.8-1.2 | 3.1-2.4-1.8 | 3.7-3.1-2.4 | 4-3.4-2.7 | 4.6-3.7-3.1 | 4.9-4.3-3.4 |
| | Throw in Y side-(M) | 2.5-1.8-1.2 | 3.4-2.6-1.8 | 4.0-3.4-2.6 | 4.4-3.7-3.0 | 5.0-4.1-3.5 | 5.4-4.7-3.7 |
| | N C | <15 | 16 | 21 | 27 | 34 | 39 |
| 225 x 225 0.0172 | Total CFM | 108 | 161 | 214 | 269 | 322 | 375 |
| | Total M ³ / S e c | 0.051 | 0.076 | 0.101 | 0.127 | 0.152 | 0.177 |
| | M ³ /Sec each side of X | 0.019 | 0.028 | 0.038 | 0.048 | 0.057 | 0.066 |
| | M ³ /Sec in Y side | 0.013 | 0.020 | 0.025 | 0.031 | 0.038 | 6.72 |
| | P _s in mm of H ₂ O | 0.56 | 1.12 | 2.29 | 3.45 | 4.92 | 5.84 |
| | Throw in each side of X-(M) | 2.4-1.8-1.2 | 3.4-2.4-1.8 | 4.3-3.1-2.4 | 5.5-4.3-3.1 | 7.3-5.5-4.0 | 9.1-6.7-5.5 |
| | Throw in Y side-(M) | 2.5-1.8-1.2 | 3.7-2.6-1.8 | 4.7-3.4-2.6 | 6.1-4.8-3.4 | 4.48.2-6.1- | 10.1-7.5-6.1 |
| | N C | <15 | 17 | 24 | 30 | 36 | 41 |
| 300 x 300 0.028 | Total CFM | 191 | 286 | 381 | 476 | 572 | 667 |
| | Total M ³ /Sec | 0.09 | 0.135 | 0.18 | 0.225 | 0.27 | 0.315 |
| | M ³ /Sec each side of X | 0.033 | 0.051 | 0.068 | 0.084 | 0.101 | 0.118 |
| | M ³ /Sec in Y side | 0.024 | 0.033 | 0.044 | 0.057 | 0.068 | 0.079 |
| | P _s in mm of H ₂ O | 0.56 | 1.45 | 2.59 | 4.36 | 6.08 | 8.48 |
| | Throw in each side of X-(M) | 4.9-3.1-2.1 | 6.1-4.3-3.1 | 7.3-4.9-4.0 | 7.9-5.8-4.6 | 9.1-5.8-4.9 | 9.8-6.7-5.5 |
| | Throw in Y side-(M) | 5.2-3.3-2.1 | 6.5-4.6-3.4 | 8.0-5.4-4.3 | 8.5-6.3-5.1 | 10.1-6.6-5.4 | 10.6-7.7-6.2 |
| | N C | <15 | 17 | 26 | 33 | 38 | 43 |
| 375 x 375 0.044 | Total CFM | 299 | 447 | 595 | 745 | 893 | 1042 |
| | Total M ³ / Sec | 0.141 | 0.211 | 0.281 | 0.352 | 0.422 | 0.492 |
| | M ³ /Sec each side of X | 0.053 | 0.079 | 0.105 | 0.132 | 0.158 | 0.185 |
| | M ³ /Sec in Y side | 0.035 | 0.053 | 0.071 | 0.088 | 0.106 | 0.122 |
| | P _s in mm of H ₂ O | 0.84 | 1.70 | 2.87 | 4.59 | 6.66 | 9.35 |
| | Throw in each side of X-(M) | 5.5-3.7-2.4 | 7.6-5.5-4.0 | 8.8-6.1-5.2 | 10.1-7.0-5.8 | 11.3-7.6-6.1 | 12.2-8.2-6.7 |
| | Throw in Y side-(M) | 5.8-3.9-2.5 | 8.2-5.9-4.3 | 9.4-6.7-5.6 | 10.9-7.6-6.4 | 12.5-8.3-6.7 | 13.4-9.1-7.4 |
| | N C | <15 | 18 | 28 | 35 | 40 | 44 |

SUPPLY AIR SQUARE CEILING DIFFUSER Three Way Throw

Table 6.3 (cont.) Air flow data

| Neck size in mm x mm Area factor In m ² | Neck vel in m/sec | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 |
|--|--|--------------|--------------|---------------|---------------|---------------|----------------|
| 450 x 450 0.067 | Total CFM | 430 | 644 | 858 | 1071 | 1287 | 1501 |
| | Total M ³ / Sec | 0.203 | 0.304 | 0.405 | 0.506 | 0.608 | 0.709 |
| | M ³ /Sec each side of X | 0.076 | 0.114 | 0.151 | 0.19 | 0.228 | 0.267 |
| | M ³ /Sec in Y side | 0.051 | 0.076 | 0.103 | 0.126 | 0.152 | 0.175 |
| | P _s in mm of H ₂ O | 0.84 | 1.70 | 3.16 | 5.16 | 7.52 | 10.51 |
| | Throw in each side of X-(M) | 7.6-4.6-3.1 | 9.1-06.4-4.6 | 10.7-7.6-6.6 | 12.2-8.5-6.7 | 13.4-9.2-7.6 | 14-10.1-8.2 |
| | Throw in Y side-(M) | 8.1-4.9-3.2 | 9.5-6.8-4.9 | 12.5-8.7-7.2 | 13.4-9.2-7.2 | 15.4-10.2-8.3 | 15.6-11.3-9.1 |
| | N C | <15 | 20 | 30 | 36 | 41 | 44 |
| 525 x 525 0.095 | Total CFM | 585 | 875 | 1165 | 1461 | 1757 | 2033 |
| | Total M ³ / Sec | 0.276 | 0.413 | 0.55 | 0.69 | 0.83 | 0.96 |
| | M ³ /Sec each side of X | 0.103 | 0.155 | 0.206 | 0.259 | 0.311 | 0.36 |
| | M ³ /Sec in Y side | 0.07 | 0.103 | 0.138 | 0.172 | 0.208 | 0.24 |
| | P _s in mm of H ₂ O | 0.84 | 1.99 | 3.5 | 5.46 | 7.82 | 9.65 |
| | Throw in each side of X-(M) | 8.5-5.2-3.7 | 11-7.6-5.2 | 12.5-8.5-7.0 | 14-9.8-7.9 | 15.9-11-8.5 | 16.8-11.6-9.5 |
| | Throw in Y side-(M) | 9.2-5.6-3.9 | 11.9-8.2-5.6 | 13.7-9.3-7.6 | 5.4-10.4-8.5 | 17.7-12.5-9.4 | 17.8-13.1-10.6 |
| | N C | 15 | 23 | 32 | 37 | 42 | 45 |
| 600 x 600 0.133 | Total CFM | 762 | 1143 | 1524 | 1906 | 2287 | 2668 |
| | Total M ³ / Sec | 0.36 | 0.54 | 0.72 | 0.9 | 1.08 | 1.26 |
| | M ³ /Sec each side of X | 0.135 | 0.202 | 0.27 | 0.338 | 0.405 | 0.472 |
| | M ³ /Sec in Y side | 0.09 | 0.136 | 0.18 | 0.224 | 0.270 | 0.316 |
| | P _s in mm of H ₂ O | 0.84 | 1.99 | 3.5 | 5.46 | 7.82 | 9.65 |
| | Throw in each side of X-(M) | 10.4-5.8-4 | 12.2-8-5.8 | 14.3-10-7.6 | 16.1-11.3-8.5 | 18-12.5-9.4 | 19.5-13.4-10 |
| | Throw in Y side-(M) | 10.7-6.2-4.2 | 13.1-8.3-6.2 | 15.4-10.9-8.4 | 17.6-12.1-9.3 | 20-14.0-10.2 | 21.6-15.0-11.2 |
| | N C | 16 | 26 | 33 | 38 | 42 | 45 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

SUPPLY AIR SQUARE CEILING DIFFUSER FOUR WAY THROW

Table 6.4 Air flow data

| Neck size in mm x mm Area factor in m ² | Neck vel in m/sec | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 |
|---|---|-------------|-------------|--------------|---------------|--------------|---------------|
| 150 x 150 0.0093 | Cfm | 47 | 72 | 95 | 119 | 144 | 167 |
| | M ³ /sec. | 0.023 | 0.034 | 0.045 | 0.056 | 0.068 | 0.079 |
| | - P _s in mm H ₂ O | 0.51 | 0.76 | 1.52 | 2.54 | 3.56 | 4.57 |
| | Throw in m | 2.4-1.8-1.2 | 3.1-2.4-1.8 | 3.7-3.1-2.4 | 4-3.4-2.7 | 4.6-3.7-3.1 | 4.9-4.3-3.4 |
| | NC | <15 | 16 | 21 | 27 | 34 | 39 |
| 225 x 225 0.0169 | Cfm | 108 | 161 | 214 | 269 | 322 | 375 |
| | M ³ /sec. | 0.051 | 0.076 | 0.101 | 0.127 | 0.152 | 0.177 |
| | - P _s in mm H ₂ O | 0.51 | 1.00 | 2.03 | 3.05 | 4.32 | 5.84 |
| | Throw in m | 2.4-1.8-1.2 | 3.4-2.4-1.8 | 4.3-3.1-2.4 | 5.5-4.3-3.1 | 7.3-5.5-4 | 9.1-6.7-5.5 |
| | NC | <15 | 17 | 24 | 30 | 36 | 41 |
| 300 x 300 0.028 | Cfm | 191 | 286 | 381 | 476 | 572 | 667 |
| | M ³ /sec. | 0.09 | 0.135 | 0.18 | 0.225 | 0.27 | 0.315 |
| | - P _s in mm H ₂ O | 0.51 | 1.27 | 2.29 | 3.81 | 5.33 | 7.37 |
| | Throw in m | 4.9-3.1-2.1 | 6.1-4.3-3.1 | 7.3-4.9-4.0 | 7.9-5.8-4.6 | 9.1-5.8-4.9 | 9.8-6.7-5.5 |
| | NC | <15 | 17 | 26 | 33 | 38 | 43 |
| 375 x 375 0.043 | Cfm | 299 | 447 | 595 | 745 | 893 | 1042 |
| | M ³ /sec. | 0.141 | 0.211 | 0.281 | 0.352 | 0.422 | 0.492 |
| | - P _s in mm H ₂ O | 0.76 | 1.52 | 2.54 | 4.06 | 5.84 | 8.13 |
| | Throw in m | 5.5-3.7-2.4 | 7.6-5.5-4.0 | 8.8-6.1-5.2 | 10.1-7-5.8 | 11.3-7.6-6.1 | 12.2-8.2-6.7 |
| | NC | <15 | 18 | 28 | 35 | 40 | 44 |
| 450 x 450 0.065 | Cfm | 430 | 644 | 858 | 1071 | 1287 | 1501 |
| | M ³ /sec. | 0.203 | 0.304 | 0.405 | 0.506 | 0.608 | 0.709 |
| | - P _s in mm H ₂ O | 0.76 | 1.52 | 2.79 | 4.57 | 6.6 | 9.14 |
| | Throw in m | 7.6-4.6-3.1 | 9.1-6.4-4.6 | 10.7-7.6-5.6 | 12.2-8.5-6.7 | 13.4-9.2-7.6 | 14-10.1-8.2 |
| | NC | <15 | 20 | 30 | 36 | 41 | 44 |
| 525 x 525 0.093 | Cfm | 585 | 875 | 1165 | 1461 | 1757 | 2033 |
| | M ³ /sec. | 0.276 | 0.413 | 0.55 | 0.69 | 0.83 | 0.96 |
| | - P _s in mm H ₂ O | 0.76 | 1.78 | 3.05 | 4.83 | 6.86 | 8.39 |
| | Throw in m | 8.5-5.2-3.7 | 11-7.6-5.2 | 12.5-8.5-7.0 | 14-9.8-7.9 | 15.9-11-8.5 | 16.8-11.6-9.5 |
| | NC | 15 | 23 | 32 | 37 | 42 | 45 |
| 600 x 600 0.13 | Cfm | 762 | 1143 | 1524 | 1906 | 2287 | 2668 |
| | M ³ /sec. | 0.36 | 0.54 | 0.72 | 0.9 | 1.08 | 1.26 |
| | - P _s in mm H ₂ O | 0.76 | 1.78 | 3.05 | 4.83 | 6.86 | 8.39 |
| | Throw in m | 10.4-5.8-4 | 12.2-8-5.8 | 14.3-10-7.6 | 16.1-11.3-8.5 | 18-12.5-9.4 | 19.5-13.4-10 |
| | NC | 16 | 26 | 33 | 38 | 42 | 45 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

RETURN AIR SQUARE CEILING DIFFUSER ONE Way

Table 6.5 Air flow data

| Neck size in mm x mm Neck Area In m ² | Neck vel in m/sec | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 150 x 150 0.023 | CFM | 49 | 61 | 74 | 85 | 97 | 123 | 146 | 171 | 195 |
| | M ³ /sec. | 0.023 | 0.029 | 0.035 | 0.04 | 0.046 | 0.058 | 0.069 | 0.081 | 0.092 |
| | - P _s in mm H ₂ O | 0.65 | 1.04 | 1.51 | 2.06 | 2.66 | 4.25 | 6.12 | 8.54 | 11.18 |
| | NC | <15 | <15 | <15 | <15 | 19 | 25 | 30 | 34 | 40 |
| 225 x 225 0.051 | CFM | 108 | 135 | 163 | 188 | 216 | 271 | 324 | 379 | 432 |
| | M ³ /sec. | 0.051 | 0.064 | 0.077 | 0.089 | 0.102 | 0.128 | 0.153 | 0.179 | 0.204 |
| | - P _s in mm H ₂ O | 0.70 | 1.14 | 1.72 | 2.25 | 3.04 | 4.71 | 6.79 | 9.65 | 12.57 |
| | NC | <15 | <15 | <15 | 16 | 21 | 28 | 34 | 40 | 45 |
| 300 x 300 0.09 | CFM | 193 | 239 | 286 | 335 | 381 | 476 | 572 | 667 | 762 |
| | M ³ /sec. | 0.09 | 0.113 | 0.135 | 0.158 | 0.18 | 0.225 | 0.27 | 0.315 | 0.36 |
| | - P _s in mm H ₂ O | 0.81 | 1.26 | 1.85 | 2.51 | 3.34 | 5.25 | 7.61 | 10.47 | 13.97 |
| | NC | <15 | <15 | 16 | 21 | 25 | 32 | 38 | 43 | 48 |
| 375 x 375 0.141 | CFM | 298 | 372 | 449 | 521 | 597 | 747 | 896 | 1046 | 1194 |
| | M ³ /sec. | 0.141 | 0.176 | 0.212 | 0.246 | 0.282 | 0.353 | 0.423 | 0.494 | 0.564 |
| | - P _s in mm H ₂ O | 0.91 | 1.42 | 2.11 | 2.85 | 3.79 | 5.93 | 8.7 | 11.85 | 15.64 |
| | NC | <15 | <15 | 19 | 25 | 32 | 38 | 43 | 47 | 51 |
| 450 x 450 0.203 | CFM | 430 | 538 | 646 | 752 | 860 | 1076 | 1289 | 1505 | 1719 |
| | M ³ /sec. | 0.203 | 0.254 | 0.305 | 0.355 | 0.406 | 0.508 | 0.609 | 0.711 | 0.812 |
| | - P _s in mm H ₂ O | 0.99 | 1.52 | 2.27 | 3.09 | 4.14 | 6.46 | 9.24 | 12.95 | 17.04 |
| | NC | <15 | 17 | 24 | 31 | 36 | 40 | 45 | 48 | 52 |
| 525 x 525 0.276 | CFM | 584 | 730 | 877 | 1023 | 1168 | 1461 | 1753 | 2045 | 2337 |
| | M ³ /sec. | 0.276 | 0.345 | 0.414 | 0.483 | 0.552 | 0.69 | 0.828 | 0.966 | 1.104 |
| | - P _s in mm H ₂ O | 1.06 | 1.66 | 2.45 | 3.33 | 4.44 | 6.99 | 10.05 | 13.78 | 18.44 |
| | NC | 18 | 25 | 30 | 36 | 40 | 44 | 47 | 51 | 55 |
| 600 x 600 0.36 | CFM | 762 | 953 | 1143 | 1334 | 1524 | 1905 | 2287 | 2668 | 3049 |
| | M ³ /sec. | 0.36 | 0.45 | 0.54 | 0.63 | 0.72 | 0.9 | 1.08 | 1.26 | 1.44 |
| | - P _s in mm H ₂ O | 1.16 | 1.82 | 2.64 | 3.65 | 4.79 | 7.54 | 10.87 | 15.16 | 20.12 |
| | NC | 23 | 30 | 36 | 40 | 42 | 46 | 49 | 54 | 58 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

RETURN AIR SQUARE CEILING DIFFUSER TWO Way

Table 6.6 Air flow data

| Neck size in mm x mm Neck Area In m ² | Neck vel in m/sec | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 150 x 150 0.023 | CFM | 49 | 61 | 74 | 85 | 97 | 123 | 146 | 171 | 195 |
| | M ³ /sec. | 0.023 | 0.029 | 0.035 | 0.04 | 0.046 | 0.058 | 0.069 | 0.081 | 0.092 |
| | - P _s in mm H ₂ O | 0.65 | 1.04 | 1.49 | 2.04 | 2.61 | 4.17 | 6.00 | 8.34 | 10.77 |
| | NC | <15 | <15 | <15 | <15 | 19 | 25 | 30 | 34 | 40 |
| 225 x 225 0.051 | CFM | 108 | 135 | 163 | 188 | 216 | 271 | 324 | 379 | 432 |
| | M ³ /sec. | 0.051 | 0.064 | 0.077 | 0.089 | 0.102 | 0.128 | 0.153 | 0.179 | 0.204 |
| | - P _s in mm H ₂ O | 0.7 | 1.14 | 1.69 | 2.22 | 2.98 | 4.62 | 6.67 | 9.42 | 12.12 |
| | NC | <15 | <15 | <15 | 16 | 21 | 28 | 34 | 40 | 45 |
| 300 x 300 0.09 | CFM | 193 | 239 | 286 | 335 | 381 | 476 | 572 | 667 | 762 |
| | M ³ /sec. | 0.09 | 0.113 | 0.135 | 0.158 | 0.18 | 0.225 | 0.27 | 0.315 | 0.36 |
| | - P _s in mm H ₂ O | 0.80 | 1.26 | 1.83 | 2.48 | 3.28 | 5.15 | 7.47 | 10.23 | 13.46 |
| | NC | <15 | <15 | 16 | 21 | 25 | 32 | 38 | 43 | 48 |
| 375 x 375 0.141 | CFM | 298 | 372 | 449 | 521 | 597 | 747 | 896 | 1046 | 1194 |
| | M ³ /sec. | 0.141 | 0.176 | 0.212 | 0.246 | 0.282 | 0.353 | 0.423 | 0.494 | 0.564 |
| | - P _s in mm H ₂ O | 0.90 | 1.41 | 2.09 | 2.82 | 3.72 | 5.81 | 8.54 | 11.58 | 15.07 |
| | NC | <15 | <15 | 19 | 25 | 32 | 38 | 43 | 47 | 51 |
| 450 x 450 0.203 | CFM | 430 | 538 | 646 | 752 | 860 | 1076 | 1289 | 1505 | 1719 |
| | M ³ /sec. | 0.203 | 0.254 | 0.305 | 0.355 | 0.406 | 0.508 | 0.609 | 0.711 | 0.812 |
| | - P _s in mm H ₂ O | 0.98 | 1.52 | 2.25 | 3.06 | 4.07 | 6.33 | 9.07 | 12.66 | 16.42 |
| | NC | <15 | 17 | 24 | 31 | 36 | 40 | 45 | 48 | 52 |
| 525 x 525 0.276 | CFM | 584 | 730 | 877 | 1023 | 1168 | 1461 | 1753 | 2045 | 2337 |
| | M ³ /sec. | 0.276 | 0.345 | 0.414 | 0.483 | 0.552 | 0.69 | 0.828 | 0.966 | 1.104 |
| | - P _s in mm H ₂ O | 1.06 | 1.65 | 2.43 | 3.29 | 4.36 | 6.86 | 9.86 | 13.46 | 17.77 |
| | NC | 18 | 25 | 30 | 36 | 40 | 44 | 47 | 51 | 55 |
| 600 x 600 0.36 | CFM | 762 | 953 | 1143 | 1334 | 1524 | 1905 | 2287 | 2668 | 3049 |
| | M ³ /sec. | 0.36 | 0.45 | 0.54 | 0.63 | 0.72 | 0.9 | 1.08 | 1.26 | 1.44 |
| | - P _s in mm H ₂ O | 1.16 | 1.81 | 2.62 | 3.62 | 4.7 | 7.39 | 10.67 | 14.81 | 19.39 |
| | NC | 23 | 30 | 36 | 40 | 42 | 46 | 49 | 54 | 58 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

RETURN AIR SQUARE CEILING DIFFUSER THREE Way

Table 6.7 Air flow data

| Neck size in mm x mm Neck Area in m ² | Neck vel in m/sec | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 150 x 150 0.023 | CFM | 49 | 61 | 74 | 85 | 97 | 123 | 146 | 171 | 195 |
| | M ³ /sec. | 0.023 | 0.029 | 0.035 | 0.04 | 0.046 | 0.058 | 0.069 | 0.081 | 0.092 |
| | - P _s in mm H ₂ O | 0.7 | 1.12 | 1.48 | 2.02 | 2.59 | 4.14 | 5.96 | 8.2 | 10.67 |
| | NC | <15 | <15 | <15 | <15 | 19 | 25 | 30 | 34 | 40 |
| 225 x 225 0.051 | CFM | 108 | 135 | 163 | 188 | 216 | 271 | 324 | 379 | 432 |
| | M ³ /sec. | 0.051 | 0.064 | 0.077 | 0.089 | 0.102 | 0.128 | 0.156 | 0.179 | 0.204 |
| | - P _s in mm H ₂ O | 0.76 | 1.23 | 1.68 | 2.20 | 2.96 | 4.58 | 6.62 | 9.27 | 12.00 |
| | NC | <15 | <15 | <15 | 16 | 21 | 28 | 34 | 40 | 45 |
| 300 x 300 0.09 | CFM | 193 | 239 | 286 | 335 | 381 | 476 | 572 | 667 | 762 |
| | M ³ /sec. | 0.09 | 0.113 | 0.135 | 0.158 | 0.18 | 0.225 | 0.27 | 0.315 | 0.36 |
| | - P _s in mm H ₂ O | 0.87 | 1.36 | 1.82 | 2.46 | 3.25 | 5.11 | 7.41 | 10.06 | 13.34 |
| | NC | <15 | <15 | 16 | 21 | 25 | 32 | 38 | 43 | 48 |
| 375 x 375 0.141 | CFM | 298 | 372 | 449 | 521 | 597 | 747 | 896 | 1046 | 1194 |
| | M ³ /sec. | 0.141 | 0.176 | 0.212 | 0.246 | 0.282 | 0.353 | 0.423 | 0.494 | 0.564 |
| | - P _s in mm H ₂ O | 0.98 | 1.53 | 2.07 | 2.79 | 3.69 | 5.77 | 8.48 | 11.38 | 14.93 |
| | NC | <15 | <15 | 19 | 25 | 32 | 38 | 43 | 47 | 51 |
| 450 x 450 0.203 | CFM | 430 | 538 | 646 | 752 | 860 | 1076 | 1289 | 1505 | 1719 |
| | M ³ /sec. | 0.203 | 0.254 | 0.305 | 0.355 | 0.406 | 0.508 | 0.609 | 0.711 | 0.812 |
| | - P _s in mm H ₂ O | 1.07 | 1.63 | 2.22 | 3.03 | 4.04 | 6.29 | 9.01 | 12.45 | 16.26 |
| | NC | <15 | 17 | 24 | 31 | 36 | 40 | 45 | 48 | 52 |
| 525 x 525 0.276 | CFM | 584 | 730 | 877 | 102.3 | 1168 | 1461 | 1753 | 2045 | 2337 |
| | M ³ /sec. | 0.276 | 0.345 | 0.414 | 0.483 | 0.552 | 0.69 | 0.828 | 0.966 | 1.104 |
| | - P _s in mm H ₂ O | 1.14 | 1.79 | 2.41 | 3.26 | 4.33 | 6.81 | 9.79 | 13.24 | 17.59 |
| | NC | 18 | 25 | 30 | 36 | 40 | 44 | 47 | 51 | 55 |
| 600 x 600 0.36 | CFM | 762 | 953 | 1143 | 1334 | 1524 | 1905 | 2287 | 2668 | 3049 |
| | M ³ /sec. | 0.36 | 0.45 | 0.54 | 0.63 | 0.72 | 0.9 | 1.08 | 1.26 | 1.44 |
| | - P _s in mm H ₂ O | 1.25 | 1.97 | 2.59 | 3.58 | 4.67 | 7.34 | 10.59 | 14.56 | 19.2 |
| | NC | 23 | 30 | 36 | 40 | 42 | 46 | 49 | 54 | 58 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

RETURN AIR SQUARE CEILING DIFFUSER FOUR Way

Table 6.8 Air flow data

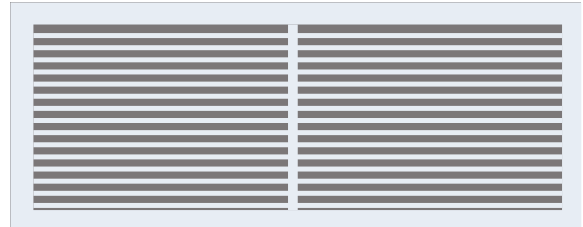
| Neck size in mm x mm Neck Area in m ² | Neck vel in m/sec | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
|---|---|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
| 150 x 150 0.023 | CFM | 49 | 61 | 74 | 85 | 97 | 123 | 146 | 171 | 195 |
| | M ³ /sec. | 0.023 | 0.029 | 0.035 | 0.04 | 0.046 | 0.058 | 0.069 | 0.081 | 0.092 |
| | - P _s in mm H ₂ O | 0.64 | 1.02 | 1.45 | 1.98 | 2.51 | 4.01 | 5.72 | 7.9 | 10.16 |
| | NC | <15 | <15 | <15 | <15 | 19 | 25 | 30 | 34 | 40 |
| 225 x 225 0.051 | CFM | 108 | 135 | 163 | 188 | 216 | 271 | 324 | 379 | 432 |
| | M ³ /sec. | 0.051 | 0.064 | 0.077 | 0.089 | 0.102 | 0.128 | 0.153 | 0.179 | 0.204 |
| | - P _s in mm H ₂ O | 0.69 | 1.12 | 1.65 | 2.16 | 2.87 | 4.44 | 6.35 | 8.89 | 11.43 |
| | NC | <15 | <15 | <15 | 16 | 21 | 28 | 34 | 40 | 45 |
| 300 x 300 0.09 | CFM | 193 | 239 | 286 | 335 | 381 | 476 | 572 | 667 | 762 |
| | M ³ /sec. | 0.09 | 0.113 | 0.135 | 0.158 | 0.18 | 0.225 | 0.27 | 0.315 | 0.36 |
| | - P _s in mm H ₂ O | 0.79 | 1.24 | 1.78 | 2.41 | 3.15 | 4.95 | 7.11 | 9.65 | 12.7 |
| | NC | <15 | <15 | 16 | 21 | 25 | 32 | 38 | 43 | 48 |
| 375 x 375 0.141 | CFM | 298 | 372 | 449 | 521 | 597 | 747 | 896 | 1046 | 1194 |
| | M ³ /sec. | 0.141 | 0.176 | 0.212 | 0.246 | 0.282 | 0.353 | 0.423 | 0.494 | 0.564 |
| | - P _s in mm H ₂ O | 0.89 | 1.39 | 2.03 | 2.74 | 3.58 | 5.59 | 8.13 | 10.9 | 14.22 |
| | NC | <15 | <15 | 19 | 25 | 32 | 38 | 43 | 47 | 51 |
| 450 x 450 0.203 | CFM | 430 | 538 | 646 | 752 | 860 | 1076 | 1289 | 1505 | 1719 |
| | M ³ /sec. | 0.203 | 0.254 | 0.305 | 0.355 | 0.406 | 0.508 | 0.609 | 0.711 | 0.812 |
| | - P _s in mm H ₂ O | 0.97 | 1.49 | 2.18 | 2.97 | 3.91 | 6.09 | 8.64 | 11.94 | 15.49 |
| | NC | <15 | 17 | 24 | 31 | 36 | 40 | 45 | 48 | 52 |
| 525 x 525 0.276 | CFM | 584 | 730 | 877 | 1023 | 1168 | 1461 | 1753 | 2045 | 2337 |
| | M ³ /sec. | 0.276 | 0.345 | 0.414 | 0.483 | 0.552 | 0.69 | 0.828 | 0.966 | 1.104 |
| | - P _s in mm H ₂ O | 1.04 | 1.63 | 2.36 | 3.2 | 4.19 | 6.6 | 9.39 | 12.7 | 16.76 |
| | NC | 18 | 25 | 30 | 36 | 40 | 44 | 47 | 51 | 55 |
| 600 x 600 0.36 | CFM | 762 | 953 | 1143 | 1334 | 1524 | 1905 | 2287 | 2668 | 3049 |
| | M ³ /sec. | 0.36 | 0.45 | 0.54 | 0.63 | 0.72 | 0.9 | 1.08 | 1.26 | 1.44 |
| | - P _s in mm H ₂ O | 1.14 | 1.78 | 2.54 | 3.51 | 4.52 | 7.11 | 10.16 | 13.9 | 18.29 |
| | NC | 23 | 30 | 36 | 40 | 42 | 46 | 49 | 54 | 58 |

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

SINGLE DEFLECTION GRILLE

CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard.
Blades: Aerofoil blades from aluminium profiles.
Blade spacing: 20 mm as standard .

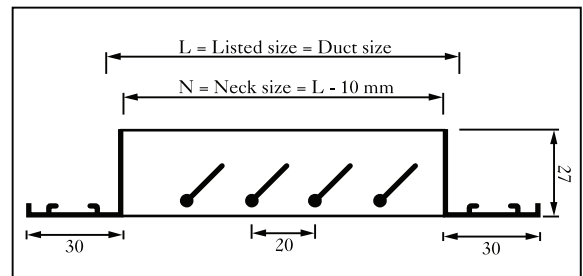


Description:

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

Standard finishes:

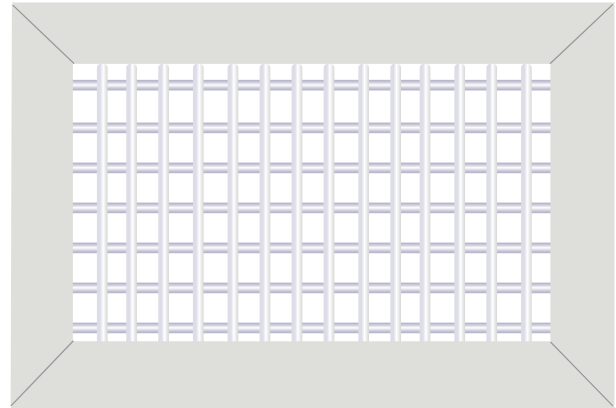
- ï Natural anodized aluminium finish.
- ï Powder coated colour finish as per RAL colour codes.
- ï Flexibility of finishing is available as option.



DOUBLE DEFLECTION GRILLE

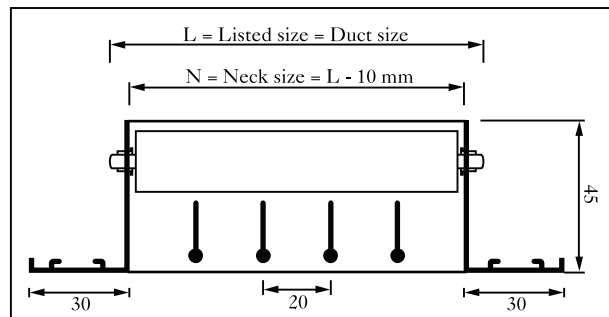
CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard. 24 ,20 ,12 mm flange widths are optional.
Blades: Aerofoilblades from aluminium profiles.
Blade spacing: 20 mm as standard .



Description:

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



Standard finishes:

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

DOUBLE DEFLECTION REGISTER

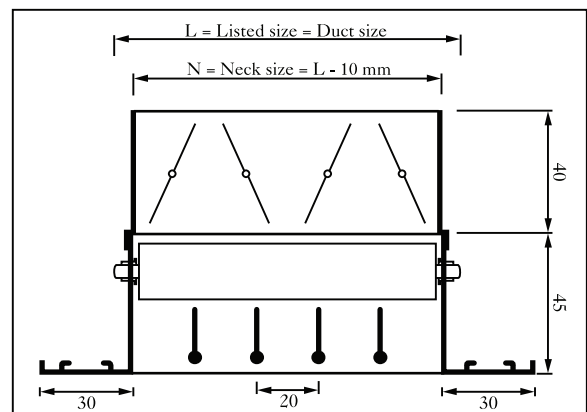
CONSTRUCTION:

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



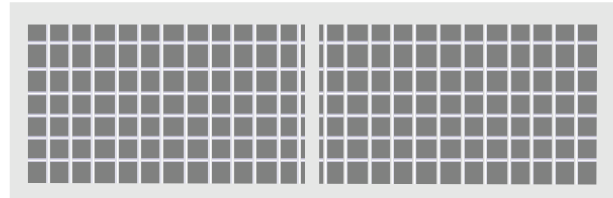
Standard finishes:

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

DOUBLE DEFLECTION REGISTER

CONSTRUCTION:

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

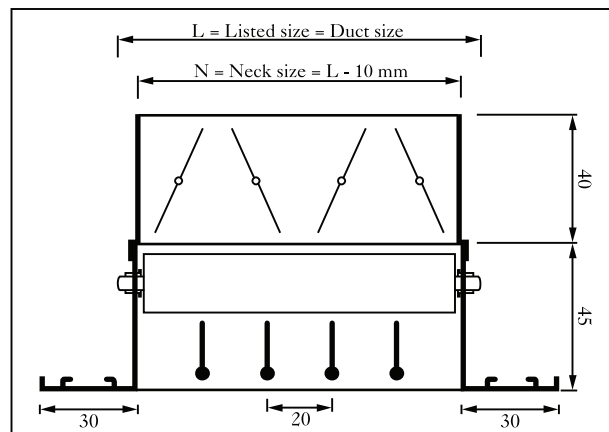


Description:

- 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 .

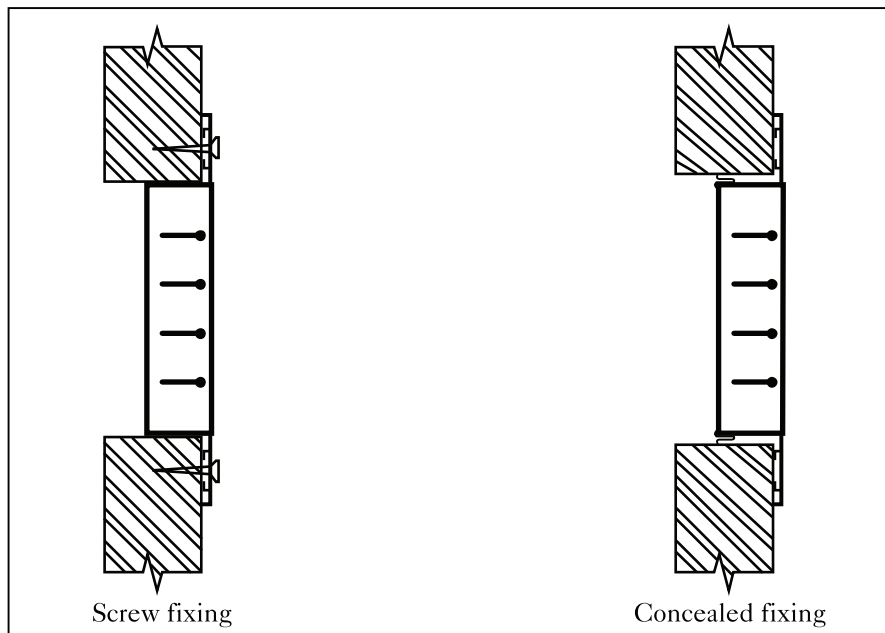
Standard finishes:

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



FIXING DETAILS

Fixing details:



Product summary:

| | |
|---------|----------------------------|
| DF- DDG | DOUBLE DEFLECTION GRILL |
| DF- DDR | DOUBLE DEFLECTION REGISTER |
| DF- SDG | SINGLE DEFLECTION GRILL |
| DF- SDR | SINGLE DEFLECTION REGISTER |

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

SINGLE DEFLECTION GRILLES AND REGISTERS

FIXED HORIZONTAL BLADES AT 0° DEFLECTION

Table 2.1 Air flow data

| Listed size in mm x mm | Face vel m/sec. | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.00 | 5.50 | 6.00 |
|--|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | P _s mm H ₂ O | 1.7 | 2.46 | 3.35 | 4.37 | 5.59 | 6.86 | 8.38 | 9.9 |
| 250x100 / 200x125 150x150 | CFM | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 |
| | M ³ /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 300x100 | CFM | 180 | 210 | 240 | 280 | 320 | 350 | 390 | 420 |
| | M ³ /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 400x100 | CFM | 220 | 260 | 310 | 350 | 400 | 440 | 490 | 530 |
| | M ³ /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 450x100 | CFM | 240 | 290 | 340 | 390 | 440 | 490 | 540 | 590 |
| | M ³ /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 400x125 / 500x100 | CFM | 270 | 320 | 370 | 420 | 480 | 530 | 590 | 640 |
| | M ³ /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 400x150 / 500x125 600x100 | CFM | 310 | 370 | 430 | 490 | 550 | 610 | 680 | 740 |
| | M ³ /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 500x150 / 600x125 750x100 | CFM | 360 | 440 | 510 | 580 | 660 | 730 | 810 | 800 |
| | M ³ /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 450x200 / 600x150 | CFM | 420 | 500 | 590 | 670 | 750 | 840 | 930 | 1020 |
| | M ³ /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 500x200 / 750x150 | CFM | 450 | 540 | 630 | 720 | 810 | 900 | 1000 | 1090 |
| | M ³ /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 500x250 / 600x200 900x150 | CFM | 510 | 620 | 720 | 820 | 930 | 1030 | 1140 | 1240 |
| | M ³ /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 600x250 / 800x200 | CFM | 580 | 700 | 820 | 940 | 1050 | 1170 | 1290 | 1400 |
| | M ³ /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 700x250/900x200 1000x150 | CFM | 660 | 800 | 930 | 1060 | 1200 | 1330 | 1470 | 1600 |
| | M ³ /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 750x250 1000x200 | CFM | 700 | 840 | 980 | 1120 | 1270 | 1400 | 1550 | 1690 |
| | M ³ /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 750x300 / 900x250 1000x200 | CFM | 800 | 970 | 1130 | 1280 | 1440 | 1600 | 1770 | 1930 |
| | M ³ /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_s: Static pressure loss in mm of H₂O
- NC based on a room attenuation of 10 dB.

SINGLE DEFLECTION GRILLES AND REGISTERS

FIXED HORIZONTAL BLADES AT 23° DEFLECTION

Table 2.2 Air flow data

| Listed size in mm x mm | Face vel m/sec. | 2.75 | 3.25 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 6.5 |
|--|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | P _s mm H ₂ O | 2.16 | 3.05 | 4.32 | 5.59 | 7.11 | 8.89 | 10.92 | 12.95 |
| 250x100 / 200x125 150x150 | CFM | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 |
| | M ³ /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 300x100 | CFM | 180 | 210 | 240 | 280 | 320 | 350 | 390 | 420 |
| | M ³ /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 400x100 | CFM | 220 | 260 | 310 | 350 | 400 | 440 | 490 | 530 |
| | M ³ /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 450x100 | CFM | 240 | 290 | 340 | 390 | 440 | 490 | 540 | 590 |
| | M ³ /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 400x125 / 500x100 | CFM | 270 | 320 | 370 | 420 | 480 | 530 | 590 | 640 |
| | M ³ /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 400x150 / 500x125 600x100 | CFM | 310 | 370 | 430 | 490 | 550 | 610 | 680 | 740 |
| | M ³ /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 500x150 / 600x125 750x100 | CFM | 360 | 440 | 510 | 580 | 660 | 730 | 810 | 800 |
| | M ³ /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 450x200 / 600x150 | CFM | 420 | 500 | 590 | 670 | 750 | 840 | 930 | 1020 |
| | M ³ /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 500x200 / 750x150 | CFM | 450 | 540 | 630 | 720 | 810 | 900 | 1000 | 1090 |
| | M ³ /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 500x250 / 600x200 900x150 | CFM | 510 | 620 | 720 | 820 | 930 | 1030 | 1140 | 1240 |
| | M ³ /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 600x250 / 800x200 | CFM | 580 | 700 | 820 | 940 | 1050 | 1170 | 1290 | 1400 |
| | M ³ /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 700x250/900x200 1000x150 | CFM | 660 | 800 | 930 | 1060 | 1200 | 1330 | 1470 | 1600 |
| | M ³ /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 750x250 1000x200 | CFM | 700 | 840 | 980 | 1120 | 1270 | 1400 | 1550 | 1690 |
| | M ³ /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 750x300 / 900x250 1000x200 | CFM | 800 | 970 | 1130 | 1280 | 1440 | 1600 | 1770 | 1930 |
| | M ³ /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_s: Static pressure loss in mm of H₂O
- NC based on a room attenuation of 10 dB.

SINGLE DEFLECTION GRILLES AND REGISTERS

FIXED HORIZONTAL BLADES AT 45° DEFLECTION

Table 2.3 Air flow data

| Listed size in mm x mm | Face vel m/sec. | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 |
|--|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | P _s mm H ₂ O | 0.91 | 1.63 | 2.54 | 3.68 | 4.97 | 6.5 | 8.33 | 10.16 |
| 250x100 / 200x125 150x150 | CFM | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 |
| | M ³ /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 300x100 | CFM | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 |
| | M ³ /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 400x100 | CFM | 102 | 136 | 170 | 204 | 238 | 272 | 306 | 340 |
| | M ³ /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 450x100 | CFM | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 |
| | M ³ /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 400x125 / 500x100 | CFM | 141 | 188 | 235 | 282 | 329 | 376 | 423 | 470 |
| | M ³ /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 400x150 / 500x125 600x100 | CFM | 162 | 216 | 270 | 324 | 378 | 432 | 486 | 540 |
| | M ³ /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 500x150 / 600x125 750x100 | CFM | 180 | 270 | 300 | 360 | 420 | 480 | 540 | 600 |
| | M ³ /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 450x200 / 600x150 | CFM | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 800 |
| | M ³ /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 500x200 / 750x150 | CFM | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
| | M ³ /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 500x250 / 600x200 900x150 | CFM | 360 | 480 | 600 | 720 | 840 | 960 | 1080 | 1200 |
| | M ³ /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 700x200 | CFM | 420 | 560 | 700 | 840 | 980 | 1120 | 1260 | 1400 |
| | M ³ /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 600x250 / 800x200 | CFM | 480 | 640 | 800 | 960 | 1120 | 1280 | 1440 | 1600 |
| | M ³ /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 700x250 / 900x200 1000x150 | CFM | 540 | 720 | 900 | 1080 | 1260 | 1440 | 1620 | 1800 |
| | M ³ /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 750x250 1000x200 | CFM | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| | M ³ /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 750x300 / 900x250 1000x200 | CFM | 660 | 880 | 1100 | 1320 | 1540 | 1760 | 1980 | 2200 |
| | M ³ /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_s: Static pressure loss in mm of H₂O
- NC based on a room attenuation of 10 dB.

DOUBLE DEFLECTION GRILLE AND REGISTERS

RATING WITH 0° AND 45° DEFLECTION

Table 2.4 Air flow data

| CFM | Listed Size in mm x mm | 200 x 100 | | 250 x 100 200 x 125 150 x 150 | | 200 x 150 250 x 125 300 x 100 | | 250 x 150 300 x 125 400 x 100 | | 300 x 150 350 x 125 450 x 100 | |
|--------|------------------------------------|---------------------|-------------|-------------------------------------|---------|-------------------------------------|---------|-------------------------------------|---------|-------------------------------------|---------|
| | | M ³ /sec | Area factor | Deflection | 0° | 45° | 0° | 45° | 0° | 45° | 0° |
| 100 | Face vel. | 2.47 | 5.08 | 2.37 | 4.63 | 2.21 | 4.18 | 1.92 | 3.32 | | |
| | P _t mm H ₂ O | 0.43 | 1.45 | 0.35 | 1.22 | 0.33 | 1.04 | 0.23 | 0.69 | | |
| 0.0472 | 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 | Face vel. | 3.71 | 7.61 | 3.56 | 6.94 | 3.31 | 6.27 | 2.87 | 4.98 | 2.63 | 4.19 |
| | P _t mm H ₂ O | 0.99 | 3.23 | 0.78 | 2.72 | 0.74 | 2.31 | 0.53 | 1.55 | 0.46 | 1.07 |
| 0.0708 | 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 | Face vel. | 4.95 | 10.16 | 4.75 | 9.26 | 4.42 | 8.36 | 3.84 | 6.65 | 3.51 | 5.59 |
| | P _t mm H ₂ O | 1.77 | 5.76 | 1.39 | 4.88 | 1.3 | 4.12 | 0.94 | 2.77 | 0.81 | 1.88 |
| 0.0945 | 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 | Face vel. | 6.18 | 12.69 | 5.93 | 11.58 | 5.52 | 10.45 | 4.80 | 8.32 | 4.39 | 6.988 |
| | P _t mm H ₂ O | 2.76 | 9.02 | 2.18 | 7.62 | 2.0 | 6.45 | 1.45 | 4.32 | 1.24 | 2.95 |
| 0.1181 | 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 | Face vel. | 7.42 | 15.24 | 7.12 | 13.89 | 6.62 | 12.54 | 5.76 | 9.98 | 5.27 | 8.38 |
| | P _t mm H ₂ O | 3.96 | 13.21 | 3.15 | 10.92 | 2.9 | 9.27 | 2.1 | 6.22 | 1.8 | 4.24 |
| 0.1417 | 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 | Face vel. | 8.65 | 17.77 | 8.31 | 16.21 | 7.72 | 14.63 | 6.72 | 11.64 | 6.14 | 9.78 |
| | P _t mm H ₂ O | 5.38 | 17.53 | 4.32 | 14.98 | 3.9 | 12.57 | 2.87 | 8.51 | 2.46 | 5.77 |
| 0.1653 | 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 | Face vel. | | | 9.49 | 18.52 | 8.83 | 16.72 | 7.68 | 13.30 | 7.022 | 11.18 |
| | P _t mm H ₂ O | | | 5.61 | 19.56 | 5.13 | 16.51 | 3.76 | 11.05 | 3.2 | 7.52 |
| 0.1889 | 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 | Face vel. | | | | | | | 8.64 | 14.96 | 7.899 | 12.57 |
| | P _t mm H ₂ O | | | | | | | 4.72 | 13.97 | 4.06 | 9.53 |
| 0.2125 | 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 | Face vel. | | | | | | | | | 8.78 | 13.97 |
| | P _t mm H ₂ O | | | | | | | | | 5.00 | 11.74 |
| 0.2362 | 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 H₂O & 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 GRILLE AND REGISTERS

RATING WITH 0° AND 45° DEFLECTION

Table 2.4 (cont.) Air flow data

| CFM M ³ /sec | Listed Size in mm x mm | 250 x 200 350 x 150 400 x 125 500 x 100 | | 250 x 250 300 x 200 400 x 150 500 x 125 650 x 100 | | 300 x 250 450 x 175 500 x 150 600 x 125 750 x 100 | | 300 x 300 350 x 250 450 x 200 600 x 150 | | 350 x 300 400 x 250 500 x 200 750 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 0.0945 | Face vel. | 3.38 | 5.31 | 2.91 | 4.30 | 2.42 | 3.28 | 2.0 | 2.56 | | | | |
| | P _t mm H ₂ 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 | | | | |
| 250 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 _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 0.2834 | Face vel. | | | 8.75 | 12.88 | 7.27 | 9.84 | 6.04 | 7.68 | 5.37 | 6.72 | | |
| | P _t mm H ₂ 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 0.3307 | Face vel. | | | | | 8.48 | 11.48 | 7.05 | 8.96 | 6.26 | 7.84 | | |
| | P _t mm H ₂ 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 0.3778 | Face vel. | | | | | | | 8.05 | 10.24 | 7.16 | 8.95 | | |
| | P _t mm H ₂ 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 0.425 | Face vel. | | | | | | | 9.06 | 11.52 | 8.05 | 10.07 | | |
| | P _t mm H ₂ 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 H₂O & 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 GRILLE AND REGISTERS

RATING WITH 0° AND 45° DEFLECTION

Table 2.4 (cont.) Air flow data

| CFM M ³ /sec | Listed Size in mm x mm | 350 x 350 400 x 300 500 x 250 600 x 200 900 x 150 | | 400 x 400 500 x 300 600 x 250 750 x 200 | | 500 x 350 600 x 300 700 x 250 900 x 200 1200 x 150 | | 450 x 450 500 x 400 800 x 250 1000 x 200 | |
|----------------------------|------------------------------------|---|----------|--|----------|--|-----------|---|----------|
| | | Area factor | 0.0633 | 0.0529 | 0.0827 | 0.072 | 0.0926 | 0.0853 | 0.1069 |
| | Deflection | 0° | 45° | 0° | 45° | 0° | 0° | 0° | 45° |
| 500 0.2362 | Face vel. | 3.73 | 4.47 | 2.86 | 3.28 | 2.46 | 2.77 | 2.21 | 2.43 |
| | P _t mm H ₂ 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 0.2834 | Face vel. | 4.47 | 5.36 | 3.43 | 3.94 | 2.95 | 3.32 | 2.65 | 2.92 |
| | P _t mm H ₂ 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 0.3307 | Face vel. | 5.22 | 6.25 | 4.0 | 4.59 | 3.44 | 3.88 | 3.09 | 3.4 |
| | P _t mm H ₂ 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 0.3778 | Face vel. | 5.97 | 7.14 | 4.57 | 5.25 | 3.93 | 4.43 | 3.53 | 3.89 |
| | P _t mm H ₂ 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 0.425 | Face vel. | 6.71 | 8.03 | 5.14 | 5.9 | 4.42 | 4.98 | 3.98 | 4.38 |
| | P _t mm H ₂ 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 0.472 | Face vel. | 7.44 | 8.92 | 5.69 | 6.55 | 4.92 | 5.55 | 4.45 | 4.86 |
| | P _t mm H ₂ 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 0.519 | Face vel. | 8.18 | 9.81 | 6.25 | 7.21 | 5.41 | 6.11 | 4.89 | 5.35 |
| | P _t mm H ₂ 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 0.567 | Face vel. | | | 6.83 | 7.87 | 5.91 | 6.67 | 5.35 | 5.84 |
| | P _t mm H ₂ 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 0.661 | Face vel. | | | 7.96 | 9.18 | 6.88 | 7.77 | 6.23 | 6.81 |
| | P _t mm H ₂ 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 H₂O & 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 GRILLE AND REGISTERS

RATING WITH 0° AND 45° DEFLECTION

Table 2.4 (cont.) Air flow data

| CFM M ³ /sec | Listed Size in mm x mm | 600 x 400 900 x 250 800 x 300 1200 x 200 | | 800 x 350 900 x 300 1100 x 250 1400 x 200 | | 600 x 600 900 x 400 1000 x 350 1200 x 300 | | 750 x 600 900 x 500 1000 x 450 1500 x 300 1200 x 375 | | 800 x 750 900 x 700 1000 x 600 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 0.519 | Face vel | 3.84 | 5.19 | 3.20 | 4.48 | 2.4 | 3.2 | 1.92 | 2.4 | | | | |
| | P _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 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 _t mm H ₂ 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 1.039 | Face vel | | | 6.41 | 8.96 | 4.81 | 6.41 | 3.85 | 4.81 | 2.94 | 3.61 | | |
| | P _t mm H ₂ 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 1.134 | Face vel | | | | | 5.25 | 7.0 | 4.2 | 5.25 | 3.2 | 3.94 | | |
| | P _t mm H ₂ 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 1.228 | Face vel | | | | | 5.69 | 7.58 | 4.55 | 5.69 | 3.47 | 4.26 | | |
| | P _t mm H ₂ 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 H₂O & 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.

DECORATIVE GRILLES

INTRODUCTION:

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

DYNFLOW 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.



DECORATIVE GRILLES

Standard finishes:

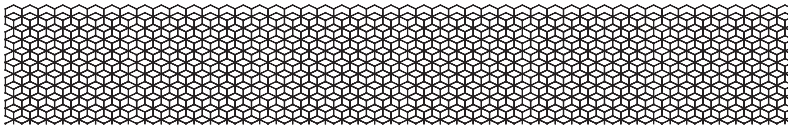
- Natural aluminium anodized finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finishing is available as option.

Standard finishes:

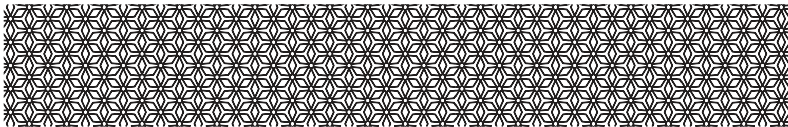
- Free area mainly depends on the design pattern of core / grille. The same can be provided on request.
- Fixing methods are same as our normal grilles either by screws or concealed clips.
- These decorative grilles can be fixed on ceilings or wall.

Decorative Grille Patterns:

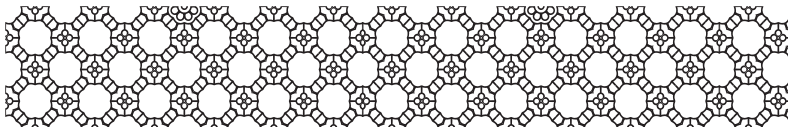
DF-DG1



DF-DG2



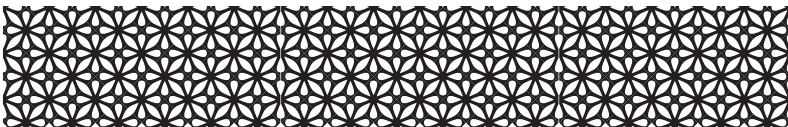
DF-DG3



DF-DG4



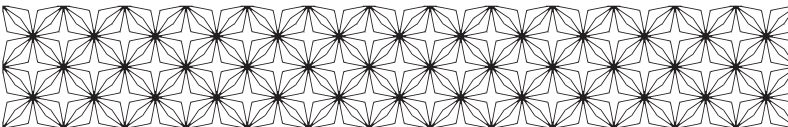
DF-DG5



DF-DG6

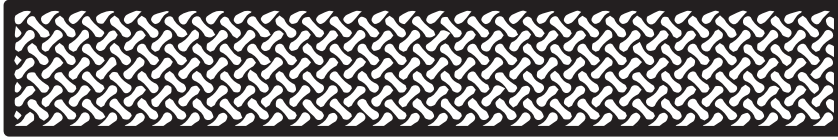


DF-DG7

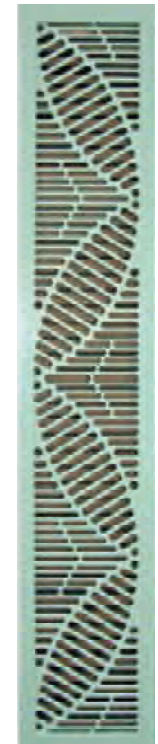
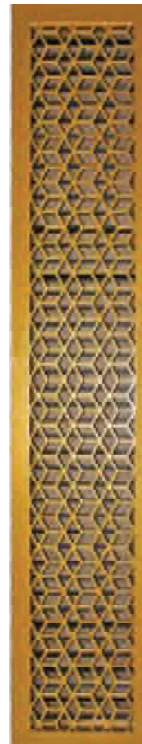


DECORATIVE GRILLES

DF-DG8



DF-DG10



SUPPLY AIR LINEAR SLOT DIFFUSER

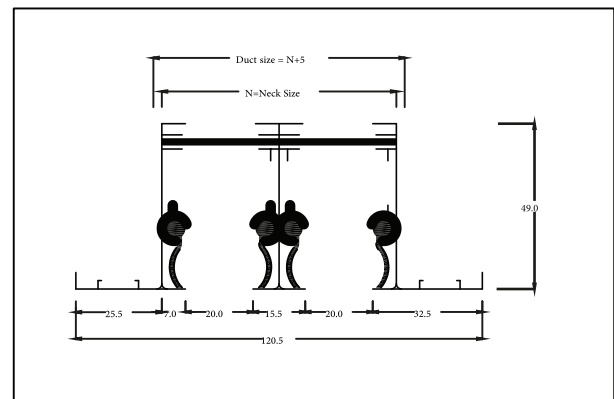
CONSTRUCTION:

Frame & Blades: High quality extruded aluminium profiles.
Frame width: 34mm standard.
Damper: Hit and miss damper.
Slot width: 20mm as standard. 16mm, 25mm and non standard sizes available as option.

Number of slots available: 5,6,7,8, 1,2,3,4. Length: Up to 5.8mt available in a single piece.
Optional accessories: Plenum box either un-lined, internally insulated or externally insulated.

Description:

- Frame and deflection blades are made of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Air distribution can be changed vertically or horizontally by means of deflection blades without changing the air flow rate. These blades can be fully adjusted from face opening.
- Air flow rate can be adjusted by fixing hit and miss damper at the rear side of the diffuser. Damper blades are adjusted from the face opening.
- Dampers are designed in a unique way that it can be used as an equalizing grid.
- Positive alignment of adjacent sections can be made by using alignment strips.
- Suitable for installation for ceiling and sills.



Standard finishes:

- Natural aluminium MILL finish.
- Powder coated colour finish as per RAL colour code.
- Flexibility of finish available

RETURN AIR LINEAR SLOT DIFFUSER

CONSTRUCTION:

Frame & Blades: High quality extruded aluminium profiles.
Frame width: 34mm standard. 20mm also available.
Damper: Hit and miss damper.
Slot width: 20mm as standard. 16mm, 25mm

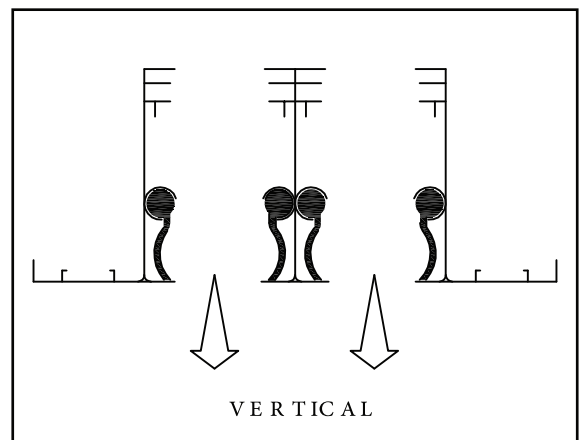
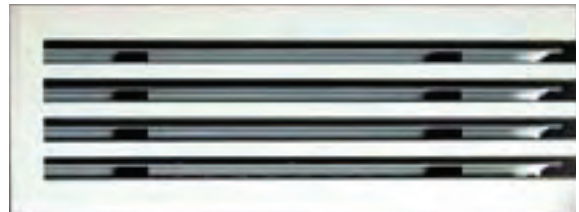
Frame & Blades: High quality extruded aluminium profiles.
Frame width: 34mm standard. 20mm also available.
Damper: Hit and miss damper.
Slot width: 20mm as standard. 16mm, 25mm

Description:

- Frame and deflection blades are made of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Positive alignment of adjacent sections can be made by using alignment strips that are provided with each diffuser.
- Structure is manufactured by mechanical assembly to ensure rigidity and straight line appearance.
- Available with out hit and miss damper as standard. Damper will be provided as option.
- Suitable for installation into ceiling and sills.

Standard finishes:

- Natural aluminium MILL finish.
- Powder coated colour finish as per RAL colour code.
- Flexibility of finish available.



SLOT DIFFUSER DIMENSIONS IN MM

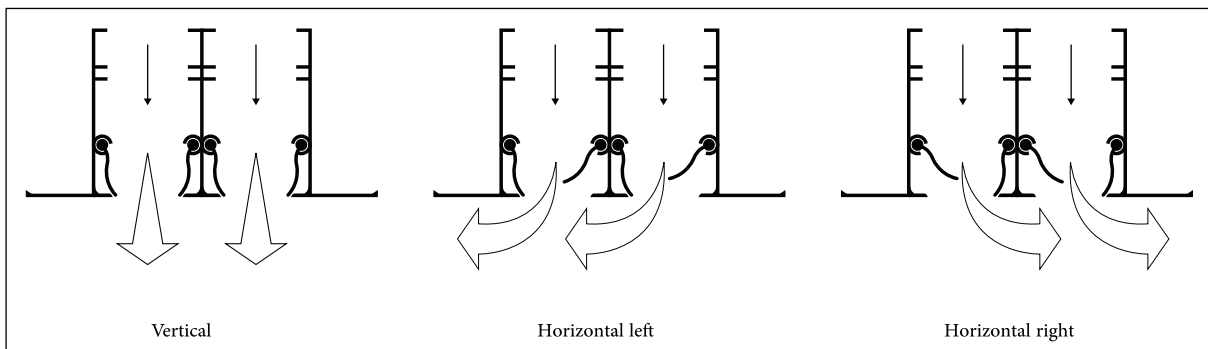
SLOT DIFFUSER DIMENSIONS IN MM

| • 16MM SLOT OPENING | | | | | | | | |
|---------------------|----|-----|-----|-----|-----|-----|-----|-----|
| No. of slots | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Neck size in mm | 30 | 62 | 93 | 125 | 156 | 188 | 219 | 251 |
| Duct size in mm | 35 | 67 | 98 | 130 | 161 | 193 | 224 | 256 |
| Overall size | 81 | 113 | 144 | 176 | 207 | 239 | 270 | 302 |

| • 20MM SLOT OPENING | | | | | | | | |
|---------------------|----|-----|-----|-----|-----|-----|-----|-----|
| No. of slots | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Neck size in mm | 34 | 70 | 105 | 141 | 176 | 212 | 247 | 283 |
| Duct size in mm | 39 | 80 | 110 | 146 | 181 | 217 | 252 | 288 |
| Overall size | 85 | 212 | 156 | 191 | 227 | 263 | 298 | 334 |

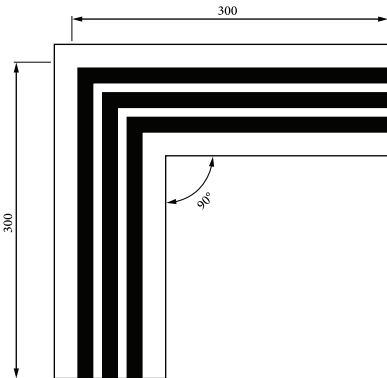
| • 25MM SLOT OPENING | | | | | | | | |
|---------------------|----|-----|-----|-----|-----|-----|-----|-----|
| No. of slots | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Neck size in mm | 39 | 80 | 120 | 161 | 201 | 242 | 282 | 333 |
| Duct size in mm | 44 | 85 | 125 | 166 | 206 | 247 | 287 | 338 |
| Overall size | 89 | 131 | 171 | 212 | 247 | 289 | 333 | 374 |

POSSIBLE AIR DELIVERIES

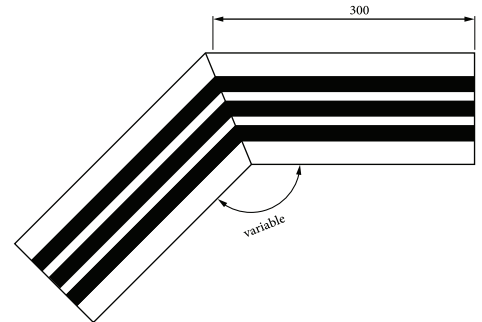


OPTIONAL MITERED CORNERS & FLANGE MODELS

Optional mitered corners:

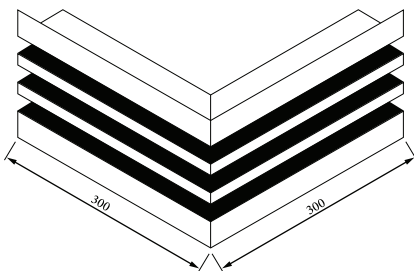


7 a. 90° Mitered corner
Standard go 0 horizontal mitered corners available for floor, sill and ceiling applications.

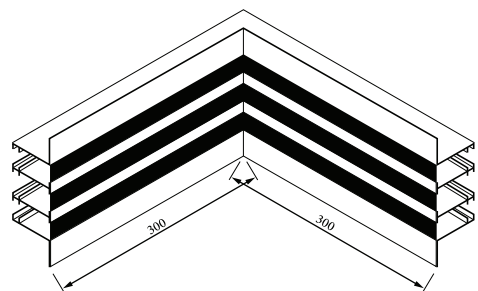


7 b. Variable mitered corner

Special horizontal mitered corners selection available for floor, sill and ceiling applications includes an angle greater than go and less than 180°.



7 c. Side wall - outside corner
Vertical outside mitered corners are available for wall application at the junction of two outside walls with a standard angle of go.

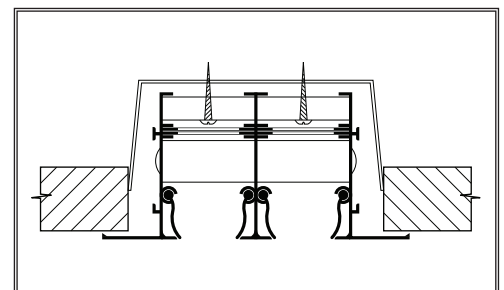


7 d. Side wall - inside corner
Vertical inside mitered corners are available for wall application at the junction of two inside walls with a standard angle of go.

OPTIONAL PROFILES & FIXING DETAILS

Fixing details

- C-Clamp fixing



SUPPLY LINEAR SLOT DIFFUSER 20mm Slot width

TABLE 3.1 AIR FLOW DATA

| Number of slots A_k in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in $mm H_2O$ | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|-----------|------------------------|-----------------|--------------------|---------------------|
| | Cfm | m^3/sec | | | | |
| 1 0.0072 | 30 | 0.014 | 1.94 | 2.5 - 1.5 - 0.4 | 0.51 | <15 |
| | 50 | 0.024 | 3.33 | 4.1 - 2.5 - 1.4 | 1.34 | 18 |
| | 75 | 0.035 | 4.86 | 5.6 - 3.8 - 2.3 | 2.62 | 29 |
| | 100 | 0.047 | 6.53 | 6.8 - 4.7 - 3.3 | 4.41 | 36 |
| | 125 | 0.059 | 8.19 | 7.4 - 5.0 - 3.8 | 5.10 | 40 |
| | 150 | 0.071 | 9.86 | 8.1 - 5.8 - 4.4 | 7.42 | 43 |
| 2 0.014 | 50 | 0.024 | 1.71 | 3.0 - 1.6 - 0.6 | 0.65 | <15 |
| | 75 | 0.035 | 2.50 | 3.7 - 2.0 - 0.9 | 1.19 | 17 |
| | 100 | 0.047 | 3.36 | 4.3 - 2.5 - 1.3 | 1.95 | 21 |
| | 125 | 0.059 | 4.21 | 5.3 - 3.7 - 1.9 | 2.83 | 29 |
| | 150 | 0.071 | 5.07 | 6.2 - 4.4 - 2.8 | 3.95 | 33 |
| | 200 | 0.094 | 6.71 | 7.3 - 4.9 - 3.5 | 6.57 | 41 |
| 3 0.021 | 100 | 0.047 | 2.24 | 3.5 - 1.9 - 0.8 | 0.96 | 17 |
| | 125 | 0.059 | 2.81 | 3.9 - 2.2 - 1.1 | 1.42 | 21 |
| | 150 | 0.071 | 3.38 | 4.9 - 2.8 - 1.7 | 2.36 | 25 |
| | 175 | 0.083 | 3.95 | 5.3 - 3.4 - 2.1 | 3.11 | 30 |
| | 200 | 0.094 | 4.48 | 5.9 - 3.9 - 2.4 | 3.91 | 36 |
| | 250 | 0.118 | 5.62 | 6.9 - 5.2 - 3.3 | 5.38 | 39 |
| 4 0.028 | 125 | 0.059 | 2.11 | 3.6 - 2.0 - 0.9 | 0.84 | 17 |
| | 150 | 0.071 | 2.53 | 3.9 - 2.3 - 1.3 | 1.49 | 22 |
| | 175 | 0.083 | 2.96 | 4.4 - 3.1 - 1.9 | 2.0 | 25 |
| | 200 | 0.094 | 3.36 | 5.2 - 3.4 - 2.2 | 2.73 | 29 |
| | 250 | 0.120 | 4.28 | 5.9 - 4.1 - 2.7 | 4.03 | 34 |
| | 300 | 0.142 | 5.07 | 6.4 - 4.9 - 3.2 | 5.0 | 38 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P_s : Static pressure loss is in mm of H_2O . Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5, 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SUPPLY LINEAR SLOT DIFFUSER 20mm Slot width

TABLE 3.1 (CONT.) AIR FLOW DATA

| Number of slots A_k in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in mm H ₂ O | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|---------------------|------------------------|-----------------|------------------------------|---------------------|
| | Cfm | m ³ /sec | | | | |
| 5 0.0465 | 250 | 0.118 | 2.54 | 5.8 - 4.3 - 2.7 | 1.43 | 22 |
| | 300 | 0.142 | 3.05 | 6.4 - 4.9 - 3.6 | 1.89 | 24 |
| | 350 | 0.165 | 3.55 | 6.8 - 5.3 - 3.7 | 2.79 | 29 |
| | 400 | 0.189 | 4.06 | 7.7 - 5.5 - 4.1 | 3.78 | 34 |
| | 450 | 0.213 | 4.58 | 8.5 - 5.9 - 4.7 | 4.25 | 35 |
| | 500 | 0.236 | 5.07 | 9.1 - 6.3 - 5.2 | 4.72 | 38 |
| 6 0.056 | 300 | 0.142 | 2.53 | 6.1 - 4.3 - 2.9 | 1.51 | 22 |
| | 350 | 0.165 | 2.95 | 6.6 - 5.2 - 3.9 | 1.64 | 24 |
| | 400 | 0.189 | 3.37 | 7.3 - 5.5 - 4.3 | 2.33 | 28 |
| | 450 | 0.213 | 3.80 | 7.6 - 5.8 - 4.6 | 3.21 | 31 |
| | 500 | 0.236 | 4.21 | 8.2 - 6.1 - 4.8 | 3.91 | 35 |
| | 600 | 0.283 | 5.05 | 9.2 - 6.7 - 5.3 | 4.78 | 40 |
| 7 0.065 | 350 | 0.165 | 2.54 | 6.1 - 4.3 - 2.9 | 1.62 | 22 |
| | 400 | 0.189 | 2.91 | 6.7 - 5.1 - 3.8 | 1.72 | 25 |
| | 450 | 0.213 | 3.28 | 7.0 - 5.3 - 4.0 | 2.33 | 28 |
| | 500 | 0.236 | 3.63 | 7.4 - 6.2 - 4.7 | 3.18 | 30 |
| | 600 | 0.283 | 4.35 | 8.6 - 6.7 - 5.0 | 4.10 | 36 |
| | 700 | 0.331 | 5.09 | 9.4 - 7.2 - 5.6 | 4.82 | 40 |
| 8 0.076 | 400 | 0.189 | 2.49 | 6.1 - 4.6 - 3.7 | 1.66 | 22 |
| | 450 | 0.213 | 2.80 | 6.7 - 5.1 - 3.8 | 1.72 | 25 |
| | 500 | 0.236 | 3.10 | 7.1 - 5.6 - 4.3 | 2.34 | 29 |
| | 600 | 0.283 | 3.72 | 7.6 - 6.4 - 4.7 | 3.24 | 31 |
| | 700 | 0.331 | 4.35 | 8.8 - 7.2 - 5.4 | 4.20 | 37 |
| | 800 | 0.378 | 4.97 | 9.7 - 7.8 - 5.9 | 4.83 | 40 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P₅: Static pressure loss is in mm of H₂O. Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5 ,0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SUPPLY LINEAR SLOT DIFFUSER 25mm Slot width

TABLE 3.2 AIR FLOW DATA

| Number of slots A_k in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in $mm H_2O$ | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|-----------|------------------------|------------------|--------------------|---------------------|
| | Cfm | m^3/sec | | | | |
| 1 0.0116 | 75 | 0.035 | 3.02 | 5.3 - 3.2 - 1.9 | 0.78 | 16 |
| | 100 | 0.047 | 4.05 | 6.6 - 4.6 - 2.8 | 1.53 | 25 |
| | 125 | 0.059 | 5.09 | 7.7 - 5.3 - 3.9 | 2.53 | 29 |
| | 150 | 0.071 | 6.12 | 8.4 - 6.3 - 4.8 | 3.79 | 33 |
| | 175 | 0.083 | 7.15 | 9.4 - 7.2 - 5.5 | 4.05 | 36 |
| | 200 | 0.094 | 8.10 | 10.5 - 8.2 - 6.1 | 5.49 | 40 |
| 2 0.0234 | 125 | 0.059 | 2.52 | 5.6 - 3.2 - 1.6 | 0.94 | <15 |
| | 150 | 0.071 | 3.03 | 6.6 - 4.1 - 2.2 | 1.36 | 17 |
| | 175 | 0.083 | 3.55 | 7.4 - 5.0 - 3.2 | 1.91 | 24 |
| | 200 | 0.094 | 4.02 | 7.7 - 5.6 - 4.5 | 2.13 | 28 |
| | 250 | 0.118 | 5.04 | 8.8 - 6.6 - 5.2 | 2.75 | 34 |
| | 300 | 0.142 | 6.07 | 10.0 - 7.9 - 6.0 | 3.93 | 39 |
| 3 0035 | 150 | 0.071 | 2.03 | 4.9 - 2.9 - 1.2 | 0.83 | <15 |
| | 200 | 0.094 | 2.68 | 5.6 - 3.6 - 2.2 | 1.28 | 17 |
| | 225 | 0.106 | 3.03 | 6.9 - 4.3 - 3.3 | 1.96 | 22 |
| | 250 | 0.118 | 3.37 | 7.7 - 5.3 - 3.9 | 2.13 | 27 |
| | 300 | 0.142 | 4.06 | 8.8 - 6.3 - 4.6 | 2.73 | 32 |
| | 350 | 0.165 | 4.71 | 10.0 - 7.4 - 5.2 | 3.71 | 36 |
| | 400 | 0.189 | 5.40 | 10.6 - 7.9 - 5.6 | 4.15 | 40 |
| 4 0.048 | 200 | 0.094 | 1.96 | 5.6 - 3.6 - 1.9 | 0.72 | <15 |
| | 250 | 0.118 | 2.46 | 6.3 - 4.3 - 2.8 | 1.39 | 17 |
| | 300 | 0.142 | 2.96 | 7.0 - 4.9 - 3.6 | 1.92 | 22 |
| | 350 | 0.165 | 3.44 | 7.7 - 5.5 - 4.2 | 2.64 | 28 |
| | 400 | 0.189 | 3.94 | 8.7 - 6.6 - 4.9 | 2.97 | 32 |
| | 450 | 0.213 | 4.44 | 9.5 - 7.2 - 5.4 | 3.42 | 35 |
| | 500 | 0.236 | 4.92 | 10.0 - 7.7 - 6.0 | 4.18 | 38 |
| | 550 | 0.26 | 5.42 | 10.9 - 8.4 - 6.5 | 4.63 | 41 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P_s : Static pressure loss is in mm of H_2O . Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5, 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SUPPLY LINEAR SLOT DIFFUSER 25mm Slot width

TABLE 3.2 (cont.) AIR FLOW DATA

| Number of slots A_k in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in $mm H_2O$ | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|-----------|------------------------|------------------|--------------------|---------------------|
| | Cfm | m^3/sec | | | | |
| 5 0.058 | 300 | 0.142 | 2.45 | 6.6 - 4.5 - 3.5 | 1.42 | 17 |
| | 350 | 0.165 | 2.84 | 6.9 - 4.9 - 3.6 | 2.17 | 23 |
| | 400 | 0.189 | 3.26 | 7.4 - 5.2 - 3.9 | 2.72 | 26 |
| | 450 | 0.213 | 3.67 | 8.0 - 5.9 - 4.5 | 3.14 | 31 |
| | 500 | 0.236 | 4.07 | 8.8 - 6.7 - 5.2 | 3.68 | 33 |
| | 550 | 0.260 | 4.48 | 9.6 - 7.5 - 5.8 | 4.10 | 36 |
| | 600 | 0.283 | 4.88 | 10.6 - 8.4 - 6.6 | 4.46 | 38 |
| | 650 | 0.307 | 5.29 | 11.6 - 8.8 - 7.1 | 4.73 | 41 |
| 6 0.071 | 350 | 0.165 | 2.32 | 6.9 - 5.2 - 3.8 | 1.49 | 17 |
| | 400 | 0.189 | 2.66 | 7.6 - 5.6 - 4.2 | 1.84 | 21 |
| | 450 | 0.213 | 3.0 | 8.0 - 5.9 - 4.5 | 2.21 | 24 |
| | 500 | 0.236 | 3.32 | 8.8 - 6.3 - 4.9 | 2.94 | 28 |
| | 600 | 0.283 | 3.98 | 9.2 - 6.8 - 5.2 | 3.69 | 32 |
| | 700 | 0.331 | 4.66 | 10.7 - 8.4 - 6.5 | 4.26 | 37 |
| | 800 | 0.378 | 5.32 | 12.0 - 9.1 - 7.4 | 5.13 | 41 |
| 7 0.082 | 400 | 0.189 | 2.30 | 7.0 - 5.3 - 4.0 | 1.51 | 17 |
| | 450 | 0.213 | 2.60 | 7.8 - 5.9 - 4.5 | 1.93 | 22 |
| | 500 | 0.236 | 2.88 | 7.9 - 6.2 - 4.7 | 2.23 | 24 |
| | 600 | 0.283 | 3.45 | 9.0 - 6.6 - 5.3 | 3.14 | 29 |
| | 700 | 0.331 | 4.04 | 9.6 - 7.1 - 5.6 | 3.97 | 34 |
| | 800 | 0.378 | 4.61 | 11.0 - 8.9 - 7.0 | 4.47 | 38 |
| | 900 | 0.425 | 5.18 | 12.2 - 9.4 - 7.5 | 5.34 | 42 |
| 8 0.094 | 500 | 0.236 | 2.51 | 7.2 - 5.6 - 4.2 | 1.82 | 18 |
| | 600 | 0.283 | 3.01 | 8.5 - 6.3 - 5.0 | 3.05 | 28 |
| | 700 | 0.331 | 3.52 | 9.3 - 6.8 - 5.5 | 3.18 | 31 |
| | 800 | 0.378 | 4.02 | 9.8 - 7.4 - 6.0 | 4.12 | 35 |
| | 900 | 0.425 | 4.52 | 11.3 - 9.2 - 7.3 | 4.63 | 39 |
| | 1000 | 0.472 | 5.02 | 12.5 - 9.6 - 7.8 | 5.34 | 43 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P_5 : Static pressure loss is in mm of H₂O. Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5, 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SUPPLY LINEAR SLOT DIFFUSER 16mm Slot width

TABLE 3.3 AIR FLOW DATA

| Number of slots A_k in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in $mm H_2O$ | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|-----------|------------------------|-----------------|--------------------|---------------------|
| | Cfm | m^3/sec | | | | |
| 1 0.0092 | 50 | 0.024 | 2.61 | 3.6 - 2.1 - 0.6 | 0.65 | <15 |
| | 75 | 0.035 | 3.80 | 4.9 - 3.0 - 1.8 | 1.44 | 18 |
| | 100 | 0.047 | 5.11 | 6.1 - 4.3 - 2.7 | 2.55 | 30 |
| | 125 | 0.059 | 6.41 | 7.0 - 4.9 - 3.7 | 3.97 | 35 |
| | 150 | 0.071 | 7.72 | 7.6 - 5.8 - 4.6 | 4.37 | 38 |
| | 175 | 0.083 | 9.02 | 8.5 - 6.7 - 5.2 | 6.12 | 41 |
| 2 0.018 | 100 | 0.047 | 2.61 | 4.3 - 2.4 - 0.6 | 0.97 | <15 |
| | 125 | 0.059 | 3.28 | 5.2 - 3.0 - 1.5 | 1.47 | 20 |
| | 150 | 0.071 | 3.94 | 6.1 - 3.9 - 2.1 | 2.12 | 28 |
| | 175 | 0.083 | 4.61 | 6.7 - 4.6 - 3.0 | 2.87 | 30 |
| | 200 | 0.094 | 5.22 | 7.0 - 5.2 - 4.3 | 3.73 | 33 |
| | 250 | 0.118 | 6.55 | 7.9 - 6.1 - 4.9 | 5.78 | 39 |
| 3 0.028 | 125 | 0.059 | 2.11 | 4.2 - 2.2 - 0.7 | 0.86 | <15 |
| | 150 | 0.071 | 2.53 | 4.9 - 2.9 - 1.4 | 1.21 | 18 |
| | 200 | 0.094 | 3.36 | 5.5 - 3.7 - 2.4 | 2.17 | 25 |
| | 225 | 0.106 | 3.78 | 6.5 - 4.4 - 3.3 | 2.73 | 29 |
| | 250 | 0.118 | 4.21 | 7.6 - 5.3 - 4.0 | 3.34 | 34 |
| | 300 | 0.142 | 5.07 | 8.6 - 6.2 - 4.7 | 4.37 | 37 |
| 4 0.0372 | 150 | 0.071 | 1.91 | 4.6 - 2.7 - 1.1 | 0.72 | <15 |
| | 200 | 0.094 | 2.53 | 5.4 - 3.6 - 2.0 | 1.39 | 21 |
| | 250 | 0.118 | 3.17 | 6.1 - 4.5 - 3.1 | 1.98 | 25 |
| | 300 | 0.142 | 3.82 | 6.7 - 5.2 - 3.9 | 2.85 | 30 |
| | 350 | 0.165 | 4.43 | 7.9 - 5.6 - 4.5 | 3.84 | 35 |
| | 400 | 0.189 | 5.08 | 8.8 - 6.7 - 5.2 | 4.51 | 38 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P_s : Static pressure loss is in mm of H₂O. Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5, 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SUPPLY LINEAR SLOT DIFFUSER 16mm Slot width

TABLE 3.3 (cont.) AIR FLOW DATA

| Number of slots A_s in m^2 | Air flow rate per meter length | | Face Velocity m/sec | Throw in meters | P_s in mm H ₂ O | Noise Criteria (NC) |
|-----------------------------------|--------------------------------|-----------|------------------------|-----------------|------------------------------|---------------------|
| | Cfm | m^3/sec | | | | |
| 5 0.036 | 150 | 0.071 | 1.97 | 3.7 - 2.1 1.0- | 1.16 | 16 |
| | 200 | 0.094 | 2.61 | 4.1 - 2.5 - 1.5 | 1.71 | 23 |
| | 250 | 0.118 | 3.28 | 5.2 - 3.4 - 2.2 | 2.73 | 29 |
| | 300 | 0.142 | 3.94 | 6.0 - 4.2 - 2.8 | 3.96 | 32 |
| | 350 | 0.165 | 4.58 | 6.4 - 4.9 - 3.2 | 4.63 | 35 |
| | 400 | 0.189 | 5.25 | 7.3 - 5.5 - 3.7 | 5.38 | 39 |
| 6 0.043 | 200 | 0.094 | 2.19 | 3.9 - 2.4 - 1.3 | 1.37 | 18 |
| | 250 | 0.118 | 2.74 | 4.7 - 2.8 - 1.7 | 1.61 | 24 |
| | 300 | 0.142 | 3.30 | 5.6 - 3.6 - 2.5 | 2.46 | 30 |
| | 350 | 0.165 | 3.84 | 6.3 - 4.4 - 3.0 | 3.53 | 33 |
| | 400 | 0.189 | 4.39 | 6.7 - 5.2 - 3.5 | 4.48 | 36 |
| | 500 | 0.236 | 5.49 | 7.9 - 5.6 - 4.1 | 5.77 | 41 |
| 7 0.049 | 250 | 0.118 | 2.41 | 4.2 - 2.5 - 1.4 | 1.61 | 20 |
| | 300 | 0.142 | 2.90 | 4.9 - 3.1 - 1.9 | 1.82 | 25 |
| | 350 | 0.165 | 3.37 | 5.9 - 3.8 - 2.6 | 2.58 | 29 |
| | 400 | 0.189 | 3.86 | 6.5 - 4.7 - 3.2 | 3.68 | 32 |
| | 500 | 0.236 | 4.82 | 7.1 - 5.3 - 3 | 5.0 | 37 |
| | 600 | 0.283 | 5.77 | 8.3 - 5.9 - 4.3 | 6.06 | 42 |
| 8 0.057 | 350 | 0.165 | 2.89 | 5.1 - 3.2 - 2.2 | 2.02 | 24 |
| | 400 | 0.189 | 3.31 | 6.0 - 3.9 - 2.7 | 2.15 | 30 |
| | 450 | 0.213 | 3.74 | 6.6 - 4.8 - 3.3 | 3.02 | 32 |
| | 500 | 0.236 | 4.14 | 7.0 - 5.2 - 3.6 | 3.89 | 35 |
| | 600 | 0.283 | 4.96 | 8.3 - 5.6 - 4.2 | 5.16 | 39 |
| | 700 | 0.331 | 5.81 | 8.7 - 6.1 - 4.5 | 6.27 | 42 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P₅: Static pressure loss is in mm of H₂O. Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5, 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

RETURN LINEAR SLOT DIFFUSER 20mm Slot width

TABLE 3.4 AIR FLOW DATA

| No. of slots | | | | | | | |
|--------------|-----------------------|-------|-------|-------|-------|-------|-------|
| 1 | CFM/m | 100 | 150 | 200 | 250 | 300 | 350 |
| | M ³ /sec/m | 0.047 | 0.071 | 0.094 | 0.118 | 0.142 | 0.165 |
| | Neg P _s | 0.61 | 1.37 | 2.41 | 3.81 | 5.46 | 7.37 |
| | NC | <15 | 19 | 28 | 36 | 42 | 48 |
| 2 | CFM m | 250 | 300 | 350 | 400 | 450 | 500 |
| | M ³ /sec/m | 0.118 | 0.142 | 0.165 | 0.189 | 0.212 | 0.236 |
| | Neg P _s | 1.02 | 1.47 | 2.03 | 2.62 | 3.30 | 4.06 |
| | NC | 17 | 22 | 27 | 32 | 36 | 40 |
| 3 | CFM/m | 350 | 400 | 450 | 500 | 600 | 700 |
| | M ³ /sec/m | 0.165 | 0.189 | 0.212 | 0.236 | 0.283 | 0.331 |
| | Neg P _s | 1.04 | 1.35 | 1.68 | 2.08 | 2.97 | 4.01 |
| | NC | 17 | 22 | 25 | 30 | 34 | 40 |
| 4 | CFM/m | 400 | 500 | 600 | 700 | 800 | 900 |
| | M ³ /sec/m | 0.189 | 0.236 | 0.283 | 0.331 | 0.378 | 0.425 |
| | Ne P _s | 0.76 | 1.19 | 1.73 | 2.36 | 3.25 | 4.06 |
| | NC | 15 | 21 | 26 | 30 | 35 | 40 |
| 5 | CFM/m | 500 | 600 | 700 | 800 | 1000 | 1200 |
| | M ³ /sec/m | 0.236 | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 |
| | Neg P _s | 0.76 | 1.12 | 1.52 | 1.96 | 3.05 | 4.37 |
| | NC | 15 | 22 | 27 | 30 | 35 | 42 |
| 6 | CFM/m | 600 | 700 | 800 | 1000 | 1200 | 1400 |
| | M ³ /sec/m | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 |
| | Neg P _s | 0.83 | 1.08 | 1.78 | 2.18 | 3.53 | 4.75 |
| | NC | 17 | 24 | 29 | 31 | 37 | 43 |
| 7 | CFM/m | 700 | 800 | 1000 | 1200 | 1400 | 1600 |
| | M ³ /sec/m | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 | 0.76 |
| | Neg P _s | 0.93 | 1.13 | 1.83 | 2.36 | 3.66 | 4.75 |
| | NC | 18 | 25 | 30 | 33 | 38 | 43 |
| 8 | CFM/m | 800 | 900 | 1100 | 1300 | 1500 | 1700 |
| | M ³ /sec/m | 0.378 | 0.425 | 0.52 | 0.61 | 0.71 | 0.8 |
| | Neg P _s | 1.02 | 1.13 | 96 | 2.45 | 3.87 | 4.93 |
| | NC | 18 | 25 | 32 | 35 | 40 | 45 |

- Data based on one meter length of the diffuser with damper fully opened.
- Face velocity is measured in m/sec.
- P5: Static pressure loss is in mm of H2O. Area factor in square meters.
- Throw (meters) is measured for terminal velocities of 0.75 & 0.5 ,0.25 m/sec.
- NC based on a room attenuation of 10 dB.

RETURN LINEAR SLOT DIFFUSER 25mm Slot width

TABLE 3.5 AIR FLOW DATA

| No. of slots | | | | | | | |
|--------------|-----------------------|-------|-------|-------|-------|-------|-------|
| 1 | CFM/m | 100 | 150 | 200 | 250 | 300 | 350 |
| | M ³ /sec/m | 0.047 | 0.071 | 0.094 | 0.118 | 0.142 | 0.165 |
| | Neg P _s | 0.51 | 1.13 | 1.98 | 3.09 | 4.4 | 5.89 |
| | NC | <15 | 18 | 26 | 33 | 38 | 45 |
| 2 | CFM/m | 250 | 300 | 350 | 400 | 450 | 500 |
| | M ³ /sec/m | 0.118 | 0.142 | 0.165 | 0.189 | 0.213 | 0.236 |
| | Neg P _s | 0.85 | 1.22 | 1.67 | 2.13 | 2.66 | 3.25 |
| | NC | <15 | 21 | 25 | 29 | 33 | 37 |
| 3 | CFM/m | 350 | 400 | 450 | 500 | 600 | 700 |
| | M ³ /sec/m | 0.165 | 0.189 | 0.213 | 0.236 | 0.283 | 0.331 |
| | Neg P _s | 0.87 | 1.11 | 1.37 | 1.69 | 2.39 | 3.21 |
| | NC | 16 | 21 | 23 | 28 | 31 | 37 |
| 4 | CFM/m | 400 | 500 | 600 | 700 | 800 | 900 |
| | M ³ /sec/m | 0.189 | 0.236 | 0.283 | 0.331 | 0.378 | 0.425 |
| | Neg P _s | 0.64 | 0.99 | 1.42 | 1.92 | 2.62 | 3.25 |
| | NC | <15 | 20 | 24 | 28 | 32 | 37 |
| 5 | CFM/m | 500 | 600 | 700 | 800 | 1000 | 1200 |
| | M ³ /sec/m | 0.236 | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 |
| | Neg P _s | 0.64 | 0.92 | 1.25 | 1.59 | 2.46 | 3.49 |
| | NC | <15 | 21 | 25 | 27 | 32 | 39 |
| 6 | CFM/m | 600 | 700 | 800 | 1000 | 1200 | 1400 |
| | M ³ /sec/m | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 |
| | Neg P _s | 0.67 | 0.83 | 1.39 | 1.77 | 3.85 | 3.8 |
| | NC | 16 | 23 | 27 | 28 | 34 | 40 |
| 7 | CFM/m | 700 | 800 | 1000 | 1200 | 1400 | 1600 |
| | M ³ /sec/m | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 | 0.76 |
| | Neg P _s | 0.75 | 0.91 | 1.48 | 1.92 | 2.95 | 3.8 |
| | NC | 17 | 24 | 28 | 29 | 35 | 40 |
| 8 | CFM/m | 800 | 900 | 1100 | 1300 | 1500 | 1700 |
| | M ³ /sec/m | 0.378 | 0.425 | 0.52 | 0.61 | 0.71 | 0.8 |
| | Neg P _s | 0.83 | 0.91 | 1.56 | 1.99 | 3.12 | 3.94 |
| | NC | 17 | 24 | 30 | 32 | 37 | 42 |

- Data based on one meter length of the diffuser.
- NC based on a room attenuation of 10 dB.
- Ps Static pressure loss is in mm of water

RETURN LINEAR SLOT DIFFUSER 16mm Slot width

TABLE 3.6 AIR FLOW DATA

| No. of slots | | | | | | | |
|--------------|-----------------------|-------|-------|-------|-------|-------|-------|
| 1 | CFM/m | 100 | 150 | 200 | 250 | 300 | 350 |
| | M ³ /sec/m | 0.047 | 0.071 | 0.094 | 0.118 | 0.142 | 0.165 |
| | Neg P _s | 0.7 | 1.59 | 2.82 | 4.49 | 6.49 | 8.84 |
| | NC | 17 | 21 | 30 | 38 | 45 | 52 |
| 2 | CFM/m | 250 | 300 | 350 | 400 | 450 | 500 |
| | M ³ /sec/m | 0.118 | 0.142 | 0.165 | 0.189 | 0.213 | 0.236 |
| | Neg P _s | 1.17 | 1.71 | 2.38 | 3.09 | 3.93 | 4.88 |
| | NC | 20 | 26 | 31 | 37 | 42 | 46 |
| 3 | CFM/m | 350 | 400 | 450 | 500 | 600 | 700 |
| | M ³ /sec/m | 0.165 | 0.189 | 0.213 | 0.236 | 0.283 | 0.331 |
| | Neg P _s | 1.19 | 1.56 | 1.96 | 2.42 | 3.54 | 4.82 |
| | NC | 20 | 26 | 29 | 34 | 40 | 46 |
| 4 | CFM/m | 400 | 500 | 600 | 700 | 800 | 900 |
| | M ³ /sec/m | 0.189 | 0.236 | 0.283 | 0.331 | 0.378 | 0.425 |
| | Neg P _s | 0.88 | 1.38 | 2.02 | 2.78 | 3.87 | 4.88 |
| | NC | 17 | 25 | 30 | 35 | 41 | 47 |
| 5 | CFM/m | 500 | 600 | 700 | 800 | 1000 | 1200 |
| | M ³ /sec/m | 0.236 | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 |
| | Neg P _s | 0.88 | 1.29 | 1.78 | 2.31 | 3.63 | 5.24 |
| | NC | 17 | 26 | 29 | 35 | 41 | 48 |
| 6 | CFM/m | 600 | 700 | 800 | 1000 | 1200 | 1400 |
| | M ³ /sec/m | 0.283 | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 |
| | Neg P _s | 0.96 | 1.25 | 2.08 | 2.57 | 4.20 | 5.7 |
| | NC | 19 | 28 | 34 | 37 | 40 | 49 |
| 7 | CFM/m | 700 | 800 | 1000 | 1200 | 1400 | 1600 |
| | M ³ /sec/m | 0.331 | 0.378 | 0.472 | 0.567 | 0.66 | 0.76 |
| | Neg P _s | 1.07 | 1.38 | 2.14 | 2.78 | 4.36 | 5.7 |
| | NC | 20 | 28 | 33 | 39 | 43 | 50 |
| 8 | CFM/m | 800 | 900 | 1100 | 1300 | 1500 | 1700 |
| | M ³ /sec/m | 0.378 | 0.425 | 0.52 | 0.61 | 0.71 | 0.8 |
| | Neg P _s | 1.17 | 1.31 | 2.29 | 2.89 | 4.61 | 5.9 |
| | NC | 22 | 31 | 37 | 40 | 45 | 50 |

- Data based on one meter length of the diffuser.
- NC based on a room attenuation of 10 dB.
- P5: Static pressure loss is in mm of water.
- Above data is tested & certified by ETL

SINGLE DEFLECTION LINEAR BAR GRILL

CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard.
 Face bars: High quality aluminium profiles of , 1-°15 way throw and 2-°15 way throw.
 Bar spacing: 12 mm as standard.

Grille width: 50 mm to 300 mm with increments of 50 mm.

Description:

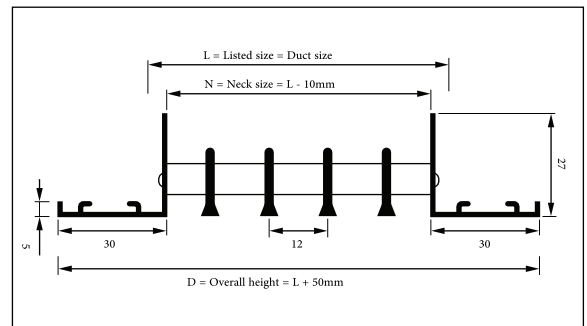
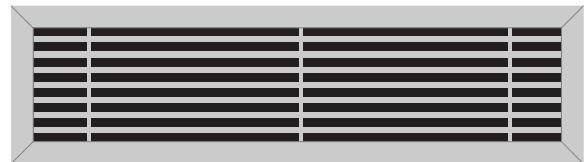
-Frame and face bars are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.

-Horizontal face bars with 1-°15 ,°0 way throw and 2-°15 way throw are fixed rigidly to the frame with 10 mm pipes.

-For perfect unbroken appearance of continuous runs, alignment strips are provided with no additional cost.

-Total structure is manufactured by mechanical assembly, assuring rigidity and to maintain straight line appearance.

- Supplied with C-clamps for concealed fixing.



SINGLE DEFLECTION LINEAR BAR REGISTER

CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard.
Face bars: High quality aluminium profiles of°, 1-°15 way throw and 2-°15 way throw.
Bar spacing: 12 mm as standard.

Grille width: Grille width: 50 mm to 300 mm with increments of 50 mm.

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

Description:

-Frame and face bars are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.

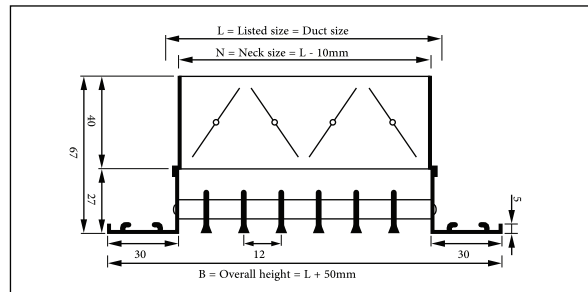
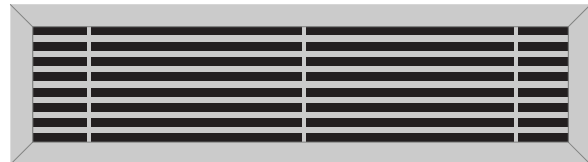
-Horizontal face bars with 1-°15 ,°0 way throw and 2-°15 way throw are fixed rigidly to the frame with 10 mm pipes.

-Grilles are fixed rigidly with opposed blade damper by grippers. This ensures positive control over the air stream. Damper blades can be screw operated from the face opening.

-For perfect unbroken appearance of continuous runs, alignment strips are provided with no additional cost.

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

-Supplied with C-clamps for concealed fixing.



DOUBLE DEFLECTION LINEAR BAR REGISTER

CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard.
Face bars: High quality aluminium profiles of, 1-°15 way throw and 2-°15 way throw.
Bar spacing: 12 mm as standard.

Grille width: 50 mm to 300 mm with increments of 50 mm.
Damper frame and blades: High quality extruded aluminium profiles with natural aluminium finish. Black matt finish as option.

Description:

-Frame and face bars are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.

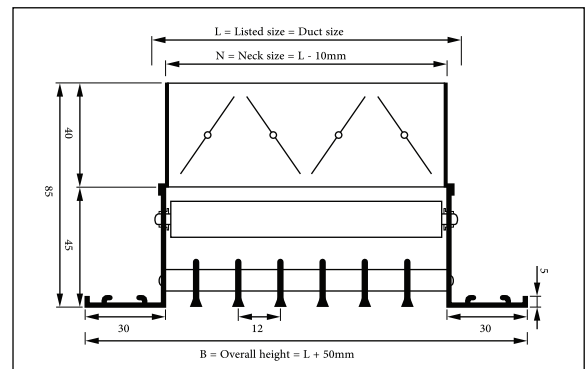
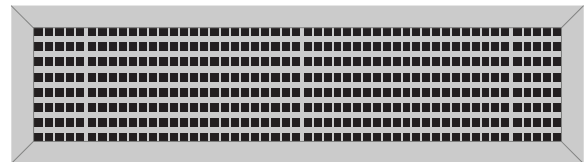
-Horizontal face bars with 1-°15, °0 way throw and 2-°15 way throw are fixed rigidly to the frame with 10 mm pipes.

- Vertical aluminium aerofoil blades are fixed at the rear side of the frame by nylon bushes. These blades can be adjusted manually and individually in the vertical plane to obtain optimum air distribution.

- Grilles are fixed rigidly with an opposed blade damper by grippers to ensure positive control over the air stream. Damper blades can be screw operated from the face opening of the grille.

-Provided with alignment strip for continuous appearance. Foam gasket is sealed around the back of the frame to avoid air leakage.

-Supplied with C-clamps for concealed fixing.



DOUBLE DEFLECTION LINEAR BAR GRILL

CONSTRUCTION:

Frame: High quality extruded aluminium profile with 30 mm flange width as standard.
Face bars: High quality aluminium profiles of ,1-°15 way throw and 2-°15 way throw.
Bar spacing: 12 mm as standard.

Grille width: 50 mm to 300 mm with increments of 50 mm.

Description:

-Frame and face bars are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.

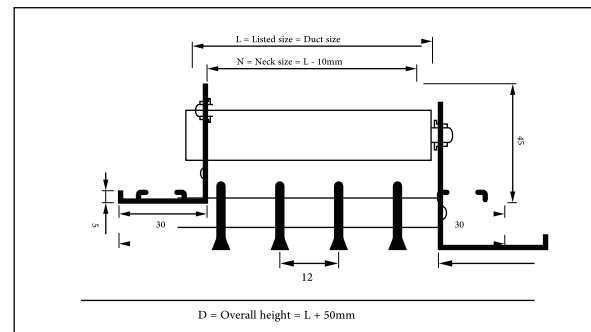
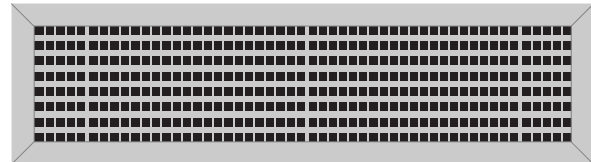
-Horizontal face bars with 1-°15 ,°0 way throw and 2-°15 way throw are fixed rigidly to the frame with 10 mm pipes.

-Vertical aluminium aerofoil blades are fixed at the rear side of the frame by nylon bushes. These blades can be adjusted manually and individually in the vertical plane to obtain optimum air distribution.

-For perfect unbroken appearance of continuous runs, alignment strips are provided with no additional cost.

-Total structure is manufactured by mechanical assembly, assuring rigidity and to maintain straight line appearance.

-Supplied with C-clamps for concealed fixing.



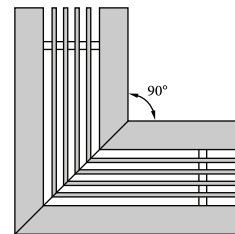
STANDARD FINISHES AND MITERED OPTIONS

Standard finishes:

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

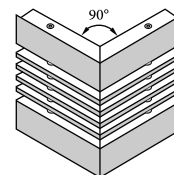
Optional mitered corners

Standard 90° horizontal mitered corner available for floor, sill and ceiling applications in $1^\circ 15'$ and $2^\circ 15'$ way throw without damper.



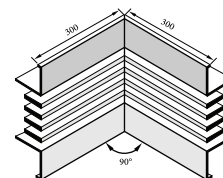
3a) 90° Horizontal

Vertical outside mitered corners are available for wall application at the junction of two outside walls with a standard angle of 90° . Available in $1^\circ 15'$ and $2^\circ 15'$ way throw without damper.



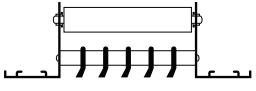
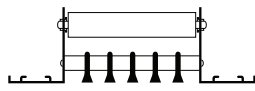
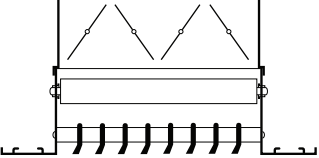
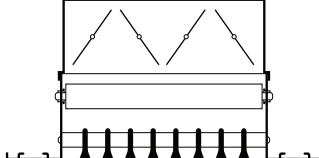
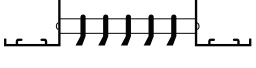
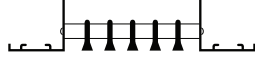
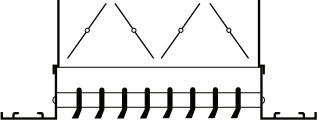
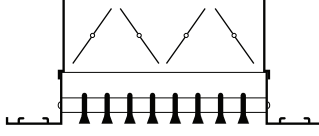
3c) 90° Vertical outside

Special horizontal mitered corner selection available for floor, sill and ceiling applications includes an angle greater than 90° and less than 180° available in $1^\circ 15'$ and $2^\circ 15'$ way throw without damper.



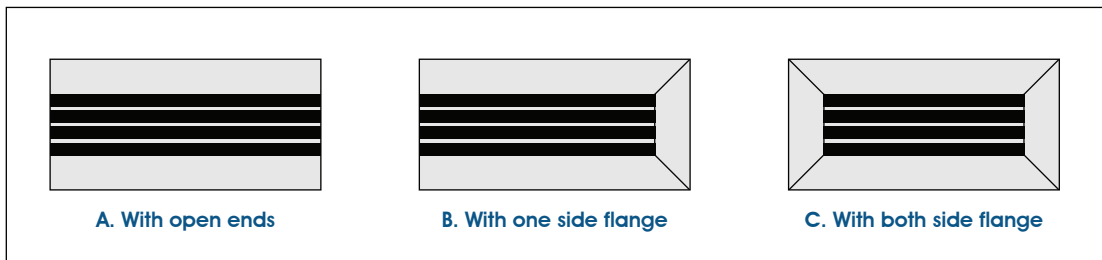
3d) 90° Vertical inside

STANDARD FINISHES AND MITERED OPTIONS

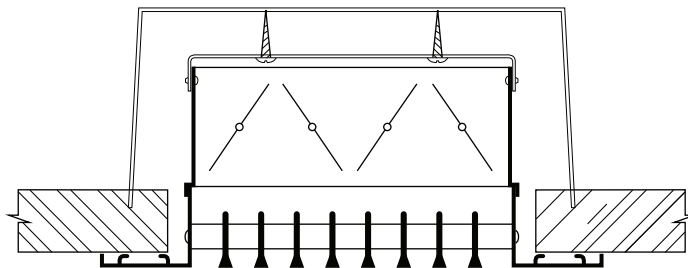
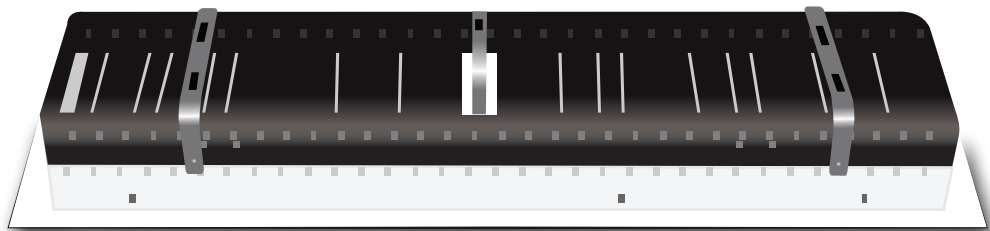
| MODEL | 15° one way | 15° two way |
|-------|---|--|
| DFSLG |  |  |
| DFSLR |  |  |
| DFRLG |  |  |
| DFRLR |  |  |

ACCESSORIES AND FIXING DETAILS

ACCESSORIES: END FLANGES:



FIXING DETAILS: C-Clamp fixing:



SIGNLE DEFLECTION 15°-2 Way - 12 mm spacing

TABLE 4.1 AIR FLOW DATA

| Width in mm A _k in m ² | Face Velocity in m/sec. | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 |
|---|---------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| 50 0.039 | Cfm | 165 | 207 | 248 | 290 | 330 | 373 | 413 |
| | M ³ /sec. | 0.078 | 0.098 | 0.117 | 0.137 | 0.156 | 0.176 | 0.195 |
| | P _s in mm H ₂ O | 0.13 | 0.2 | 0.2 | 0.24 | 0.3 | 0.39 | 0.5 |
| | Throw in m | 2.7-4.0-5.5 | 3.4-4.3-6.0 | 4.0-4.9-6.7 | 4.3-5.2-7.3 | 4.6-5.5-7.6 | 4.9-5.8-8.2 | 4.9-6.0-8.5 |
| | NC | <15 | <15 | <15 | <15 | 21 | 24 | 29 |
| 100 0.059 | Cfm | 250 | 313 | 375 | 438 | 500 | 563 | 625 |
| | M ³ /sec. | 0.118 | 0.148 | 0.177 | 0.207 | 0.236 | 0.266 | 0.295 |
| | P _s in mm H ₂ O | 0.15 | 0.21 | 0.21 | 0.3 | 0.39 | 0.51 | 0.59 |
| | Throw in m | 3.4-4.6-7.0 | 4.0-5.2-7.6 | 4.6-5.8-8 | 5.2-6.0-8.5 | 5.5-6.7-9.1 | 5.8-7.3-10 | 6-7.6-10.7 |
| | NC | <15 | <15 | <15 | 17 | 22 | 25 | 31 |
| 150 0.078 | Cfm | 330 | 413 | 495 | 578 | 660 | 743 | 825 |
| | M ³ /sec. | 0.156 | 0.195 | 0.234 | 0.273 | 0.312 | 0.351 | 0.39 |
| | P _s in mm H ₂ O | 0.15 | 0.21 | 0.25 | 0.36 | 0.46 | 0.58 | 0.69 |
| | Throw in m | 4.0-5.5-8.0 | 4.6-6.0-8.8 | 5.2-6.7-9.5 | 5.8-7.3-10 | 6.4-8-10.7 | 6.7-8.5-11.6 | 7-8.8-12.2 |
| | NC | <15 | <15 | <15 | 17 | 23 | 26 | 32 |
| 200 0.097 | Cfm | 410 | 515 | 616 | 718 | 821 | 925 | 1027 |
| | M ³ /sec. | 0.194 | 0.243 | 0.291 | 0.339 | 0.388 | 0.437 | 0.485 |
| | P _s in mm H ₂ O | 0.2 | 0.23 | 0.31 | 0.39 | 0.53 | 0.66 | 0.89 |
| | Throw in m | 4.5-6.1-8.8 | 5.2-6.7-9.8 | 6.0-7.6-10.7 | 6.7-8.0-11.3 | 7.3-8.8-11.9 | 7.6-9.5-12.8 | 8.0-9.8-13.7 |
| | NC | <15 | <15 | 16 | 21 | 26 | 29 | 35 |
| 250 0.116 | Cfm | 491 | 614 | 736 | 860 | 982 | 1105 | 1228 |
| | M ³ /sec. | 0.232 | 0.29 | 0.348 | 0.406 | 0.464 | 0.522 | 0.58 |
| | P _s in mm H ₂ O | 0.2 | 0.25 | 0.33 | 0.43 | 0.58 | 0.76 | 0.92 |
| | Throw in m | 4.9-6.7-9.8 | 5.5-7.6-10.7 | 6.4-8.2-11.3 | 7.3-8.8-12.2 | 8.0-9.5-13.1 | 8.2-10-14 | 8.5-10.7-15 |
| | NC | <15 | <15 | 20 | 25 | 31 | 32 | 37 |
| 300 0.136 | Cfm | 576 | 720 | 864 | 1008 | 1152 | 1295 | 1440 |
| | M ³ /sec. | 0.272 | 0.34 | 0.408 | 0.476 | 0.544 | 0.612 | 0.68 |
| | P _s in mm H ₂ O | 0.2 | 0.31 | 0.36 | 0.47 | 0.64 | 0.85 | 0.99 |
| | Throw in m | 5.2-7.3-10.7 | 6.1-8.2-11.6 | 7-9.1-12.2 | 7.9-9.8-13.1 | 8.5-10.4-14 | 8.8-11-15 | 9.1-11.6-16.2 |
| | NC | <15 | 18 | 24 | 28 | 32 | 33 | 40 |

- Data based on one meter unit length of the grille with damper in full open position.
- Face velocity is measured in m/sec.
- P_s: Static pressure loss is in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

SIGNLE DEFLECTION 15°-1 Way - 12 mm spacing

TABLE 4.2 AIR FLOW DATA

| Width in mm A _K in m ² | Face Velocity in m/sec. | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 |
|---|---------------------------------------|--------------|--------------|--------------|---------------|--------------|---------------|---------------|
| 50 0.040 | Cfm | 169 | 212 | 254 | 296 | 339 | 381 | 423 |
| | M ³ /sec. | 0.08 | 0.1 | 0.12 | 0.14 | 0.16 | 0.18 | 0.2 |
| | P _s in mm H ₂ O | 0.12 | 0.17 | 0.19 | 0.23 | 0.29 | 0.38 | 0.48 |
| | Throw in m | 2.7-4.1-5.6 | 3.5-4.4-6.2 | 4.1-5.0-7.0 | 4.5-5.4-7.7 | 4.8-5.8-8.1 | 5.1-6.1-8.9 | 5.2-6.4-9.3 |
| | NC | <15 | <15 | <15 | <15 | 21 | 24 | 30 |
| 100 0.065 | Cfm | 275 | 345 | 413 | 483 | 550 | 620 | 688 |
| | M ³ /sec. | 0.13 | 0.163 | 0.195 | 0.228 | 0.26 | 0.293 | 0.325 |
| | P _s in mm H ₂ O | 0.14 | 0.19 | 0.21 | 0.3 | 0.38 | 0.5 | 0.58 |
| | Throw in m | 3.5-4.7-7.1 | 4.1-5.3-7.8 | 4.7-5.9-8.4 | 5.4-6.2-9.0 | 5.8-7.0-9.7 | 6.1-7.7-10.8 | 6.4-8.1-11.7 |
| | NC | <15 | <15 | <15 | 18 | 23 | 27 | 31 |
| 150 0.088 | Cfm | 373 | 466 | 559 | 652 | 745 | 838 | 932 |
| | M ³ /sec. | 0.176 | 0.22 | 0.264 | 0.308 | 0.352 | 0.396 | 0.44 |
| | P _s in mm H ₂ O | 0.14 | 0.19 | 0.25 | 0.36 | 0.45 | 0.57 | 0.58 |
| | Throw in m | 4.1-5.6-8.2 | 4.7-6.2-9.0 | 5.4-6.9-10 | 6.0-7.6-10.6 | 6.7-8.4-11.4 | 7.0-8.9-12.5 | 7.4-9.3-13.3 |
| | NC | <15 | <15 | 15 | 18 | 24 | 29 | 31 |
| 200 0.111 | Cfm | 470 | 589 | 705 | 824 | 940 | 1058 | 1175 |
| | M ³ /sec. | 0.222 | 0.278 | 0.333 | 0.389 | 0.444 | 0.499 | 0.555 |
| | P _s in mm H ₂ O | 0.18 | 0.21 | 0.31 | 0.39 | 0.52 | 0.65 | 0.9 |
| | Throw in m | 4.6-6.2-9.0 | 5.3-6.9-10.0 | 6.2-7.8-11.2 | 6.9-8.3-11.9 | 7.7-9.2-12.7 | 8-9.9-13.8 | 8.5-10.4-14.9 |
| | NC | <15 | 15 | 16 | 21 | 26 | 32 | 36 |
| 250 0.134 | Cfm | 567 | 709 | 851 | 993 | 1135 | 1277 | 1419 |
| | M ³ /sec. | 0.268 | 0.335 | 0.402 | 0.469 | 0.536 | 0.603 | 0.67 |
| | P _s in mm H ₂ O | 0.2 | 0.25 | 0.33 | 0.42 | 0.56 | 0.77 | 0.93 |
| | Throw in m | 5.0-6.8-10 | 5.6-7.8-11 | 6.6-8.4-11.9 | 7.6-9.2-12.9 | 8.4-10-14 | 8.6-10.5-15.1 | 9.0-11.3-16.4 |
| | NC | <15 | 16 | 21 | 27 | 31 | 35 | 40 |
| 300 0.162 | Cfm | 686 | 857 | 1029 | 1200 | 1372 | 1543 | 1715 |
| | M ³ /sec. | 0.324 | 0.405 | 0.486 | 0.567 | 0.648 | 0.729 | 0.81 |
| | P _s in mm H ₂ O | 0.2 | 0.3 | 0.36 | 0.47 | 0.64 | 0.84 | 1.01 |
| | Throw in m | 5.3-7.5-10.9 | 6.2-8.4-11.9 | 7.2-9.4-12.8 | 8.2-10.2-13.9 | 8.9-10.9-15 | 9.2-11.6-16.2 | 9.6-12.3-17.6 |
| | NC | <15 | 18 | 25 | 30 | 33 | 37 | 42 |

- Data based on one meter unit length of the grille with damper in full open position.
- Face velocity is measured in m/sec.
- P_s: Static pressure loss is in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- NC based on a room attenuation of 10 dB.

WEATHER LOUVER

Construction:

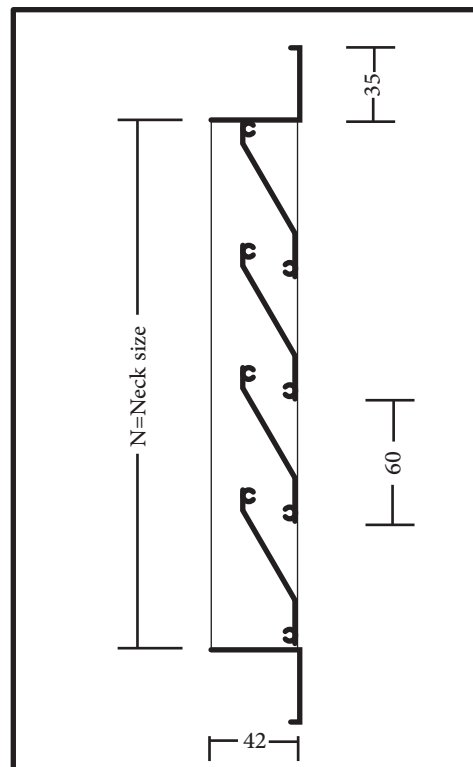
- **Frame and blades:** High quality extruded aluminium profiles with 20 mm flange width as standard 12, 16, 24 mm flange widths are option.
- **Blade pitch:** 60 mm.
- **Optional wire mesh:** 10x10x1.2mm dia G.I 12x12x1mm dia G.I wire mesh

Description:

- Composed of frame and horizontal blade assembly, manufactured from high quality extended aluminium profiles with the advantages of corrosion resistance and rigidity.
- Blades are fixed rigidly to the main frame by rivets.
- Blades are set at an angle of 60° to the horizontal with 60mm spacing.
- Total structure is weather proofed and blades are inclined downwards to protect against rain water.
- Structure provides around 45% effective pressure area.

Standard finish:

- Natural aluminium finish MILL
- Power coated colour finish.
- Flexibility of finish is available as option.



WEATHER LOUVER

Technical Data

Louver Selection and Application:

Application of stationary louver involves selecting velocity through free area that gives an acceptable pressure drop for intake and exhaust application.

Louver Free Area Chart

| H (m) | WIDTH (meters) | | | | | | | | | | | | | | | | | | | |
|----------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2 | 2.1 | 2.2 |
| 0.2 | 0.009 | 0.013 | 0.017 | 0.020 | 0.024 | 0.028 | 0.031 | 0.035 | 0.039 | 0.042 | 0.046 | 0.050 | 0.053 | 0.057 | 0.061 | 0.064 | 0.068 | 0.072 | 0.076 | 0.079 |
| 0.3 | 0.021 | 0.030 | 0.039 | 0.047 | 0.056 | 0.064 | 0.073 | 0.081 | 0.090 | 0.096 | 0.105 | 0.114 | 0.122 | 0.131 | 0.139 | 0.148 | 0.156 | 0.165 | 0.174 | 0.182 |
| 0.4 | 0.034 | 0.047 | 0.061 | 0.074 | 0.087 | 0.101 | 0.114 | 0.128 | 0.141 | 0.151 | 0.165 | 0.178 | 0.192 | 0.205 | 0.219 | 0.232 | 0.246 | 0.259 | 0.273 | 0.286 |
| 0.5 | 0.046 | 0.064 | 0.083 | 0.101 | 0.119 | 0.138 | 0.156 | 0.174 | 0.193 | 0.206 | 0.225 | 0.243 | 0.261 | 0.280 | 0.298 | 0.316 | 0.335 | 0.353 | 0.371 | 0.390 |
| 0.6 | 0.058 | 0.081 | 0.105 | 0.128 | 0.151 | 0.174 | 0.197 | 0.221 | 0.244 | 0.261 | 0.285 | 0.308 | 0.331 | 0.354 | 0.377 | 0.401 | 0.424 | 0.447 | 0.470 | 0.494 |
| 0.7 | 0.070 | 0.098 | 0.127 | 0.155 | 0.183 | 0.211 | 0.239 | 0.267 | 0.295 | 0.317 | 0.345 | 0.373 | 0.401 | 0.429 | 0.457 | 0.485 | 0.514 | 0.542 | 0.570 | 0.598 |
| 0.8 | 0.083 | 0.116 | 0.149 | 0.182 | 0.215 | 0.248 | 0.281 | 0.314 | 0.347 | 0.371 | 0.404 | 0.437 | 0.470 | 0.503 | 0.536 | 0.569 | 0.602 | 0.635 | 0.668 | 0.701 |
| 0.9 | 0.100 | 0.140 | 0.180 | 0.220 | 0.260 | 0.301 | 0.341 | 0.381 | 0.421 | 0.451 | 0.491 | 0.531 | 0.571 | 0.611 | 0.651 | 0.691 | 0.731 | 0.771 | 0.811 | 0.852 |
| 1 | 0.112 | 0.157 | 0.202 | 0.247 | 0.292 | 0.337 | 0.382 | 0.427 | 0.472 | 0.506 | 0.551 | 0.596 | 0.641 | 0.686 | 0.731 | 0.776 | 0.821 | 0.865 | 0.910 | 0.955 |
| 1.1 | 0.125 | 0.174 | 0.224 | 0.274 | 0.324 | 0.374 | 0.424 | 0.474 | 0.523 | 0.561 | 0.611 | 0.660 | 0.710 | 0.760 | 0.810 | 0.860 | 0.910 | 0.960 | 1.009 | 1.059 |
| 1.2 | 0.137 | 0.192 | 0.246 | 0.301 | 0.356 | 0.410 | 0.465 | 0.520 | 0.575 | 0.616 | 0.670 | 0.725 | 0.780 | 0.835 | 0.889 | 0.944 | 0.999 | 1.054 | 1.108 | 1.163 |
| 1.3 | 0.149 | 0.209 | 0.268 | 0.328 | 0.388 | 0.447 | 0.507 | 0.566 | 0.626 | 0.671 | 0.730 | 0.790 | 0.850 | 0.909 | 0.969 | 1.028 | 1.088 | 1.148 | 1.207 | 1.267 |
| 1.4 | 0.161 | 0.226 | 0.290 | 0.355 | 0.419 | 0.484 | 0.548 | 0.613 | 0.677 | 0.726 | 0.790 | 0.855 | 0.919 | 0.984 | 1.048 | 1.113 | 1.177 | 1.242 | 1.306 | 1.371 |
| 1.5 | 0.173 | 0.243 | 0.312 | 0.382 | 0.451 | 0.520 | 0.590 | 0.659 | 0.729 | 0.781 | 0.850 | 0.919 | 0.989 | 1.058 | 1.128 | 1.197 | 1.266 | 1.336 | 1.405 | 1.475 |
| 1.6 | 0.186 | 0.260 | 0.334 | 0.409 | 0.483 | 0.557 | 0.631 | 0.706 | 0.780 | 0.836 | 0.910 | 0.984 | 1.058 | 1.133 | 1.207 | 1.281 | 1.356 | 1.430 | 1.504 | 1.578 |
| 1.7 | 0.198 | 0.277 | 0.356 | 0.435 | 0.515 | 0.594 | 0.673 | 0.752 | 0.831 | 0.891 | 0.970 | 1.049 | 1.128 | 1.207 | 1.286 | 1.366 | 1.445 | 1.524 | 1.603 | 1.682 |
| 1.8 | 0.210 | 0.294 | 0.378 | 0.462 | 0.546 | 0.630 | 0.714 | 0.798 | 0.883 | 0.946 | 1.030 | 1.114 | 1.198 | 1.282 | 1.366 | 1.450 | 1.534 | 1.618 | 1.702 | 1.786 |
| 1.9 | 0.222 | 0.311 | 0.400 | 0.489 | 0.578 | 0.667 | 0.756 | 0.845 | 0.934 | 1.001 | 1.089 | 1.178 | 1.267 | 1.356 | 1.445 | 1.534 | 1.623 | 1.712 | 1.801 | 1.890 |
| 2 | 0.235 | 0.328 | 0.422 | 0.516 | 0.610 | 0.704 | 0.797 | 0.891 | 0.985 | 1.056 | 1.149 | 1.243 | 1.337 | 1.431 | 1.525 | 1.618 | 1.712 | 1.806 | 1.900 | 1.994 |

SELECTION PROCEDURE OF STATIONARY LOUVER:

EXAMPLE:

With given air volume:

Select Fresh Air Intake Louver with a given air volume of 2m³/s and 4m/s free area velocity.

A - Determine Louver Free Area:

Dividing the given air volume (2m³/s) by free area velocity (4m/s, do not exceed to 4.2m/s for fresh air intake application), the free area will be:

$$\text{Louver Free Area} = \frac{2\text{m}^3/\text{s}}{4\text{m/s}} = 0.5 \text{ m}^2$$

B - Select a suitable louver from Free Area Chart

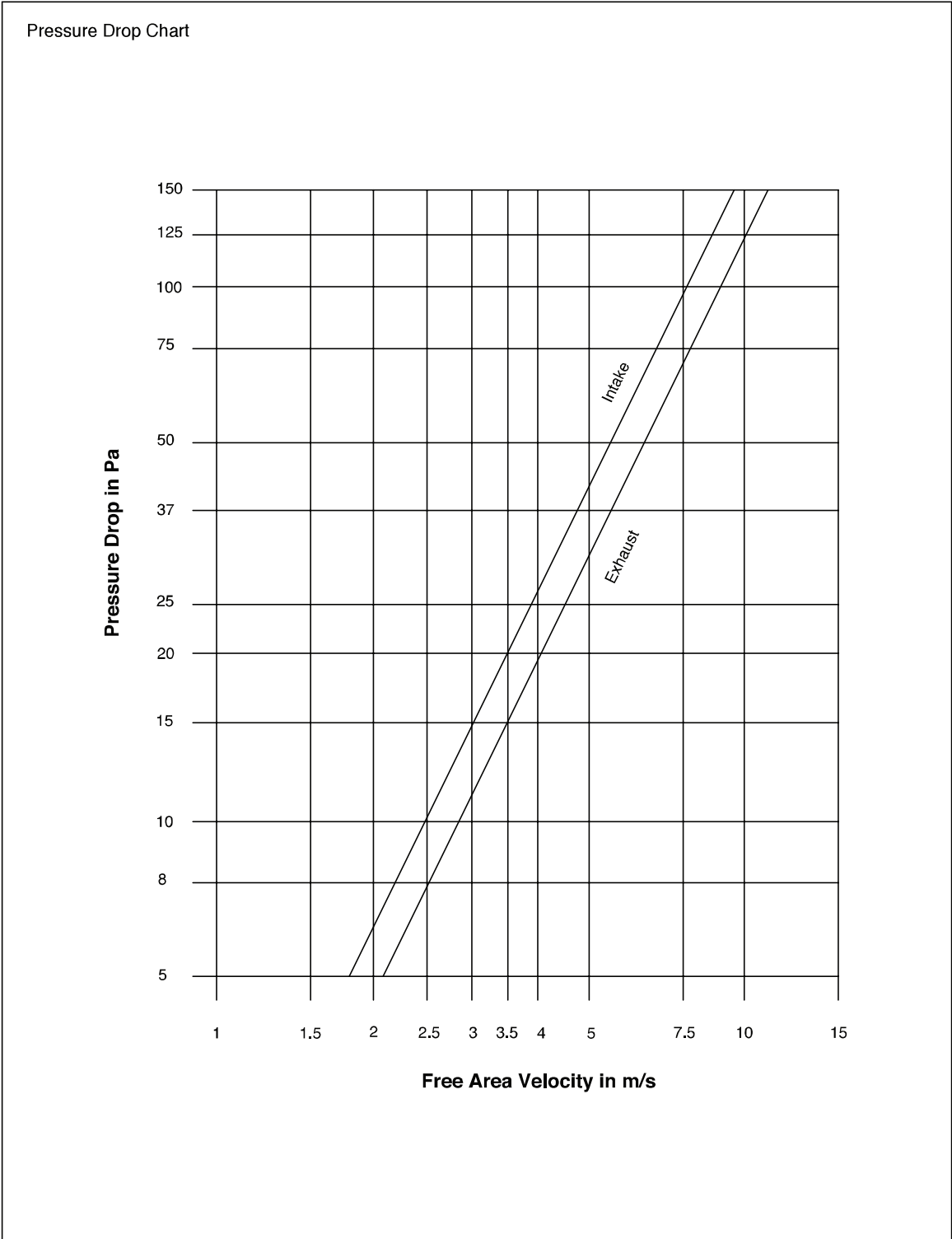
The following suitable louvers from Free Area Chart are:

1. 0.9m Wide X 1.3m High
2. 1.2m Wide X 1.0m High
3. 1.6m Wide X 0.8m High

C - Check the pressure drop of the selected louver on the Pressure Drop Chart:

The pressure drop across the selected size of louver is 27 Pa.

WEATHER LOUVER



SAND TRAP LOUVER MODEL: DF-STL

CONSTRUCTION:

Frame and blades: 1.5 mm and 1.2 mm thick high quality extruded aluminium profiles.
 Bird screen: 12 mm x 12 mm x 1 mm diameter G.I wire mesh as standard.
 12 mm x 12 mm x 1.5 mm diameter aluminium wire mesh as option.

Drain: 20 mm diameter self drain holes at the bottom of the louver.

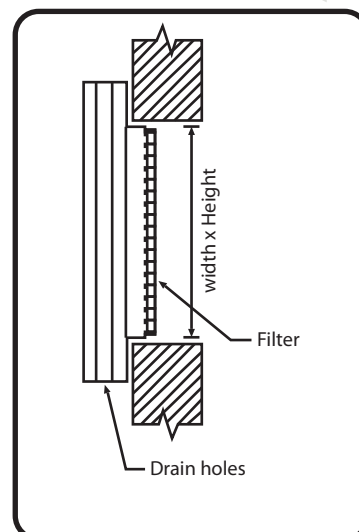
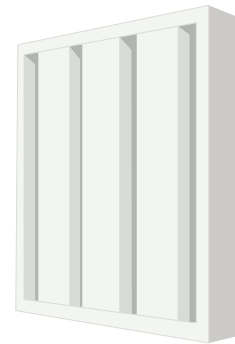
Filter frame: 20 gauge aluminium sheet.
 Filter media: Expanded aluminium media.
 Synthetic filter is optional.

Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Composed two sets of inverted U-channels mounted vertically on two opposite rows.
- Drain holes of diameter 20 mm are provided in two rows at the bottom of the louver for emptying filtered sand and dust.
- Fixed with a removable washable extruded aluminium filter with aluminium mesh as the filter media.
- Filters are available at 25 ,12 and 50 mm thickness as required.
- Total assembly is designed to operate at medium and high velocities with high dust holding capacity at low resistance to air flow.
- Can be manufactured from G.I or SS as option.
- Design to separate sand and dust from the air stream. Generally used for ventilation applications and at inlet duct of air handling unit.

Standard finishes:

- Natural aluminium MILL finish.
- Finish as per RAL colour code.
- Flexibility of finishing available as option.



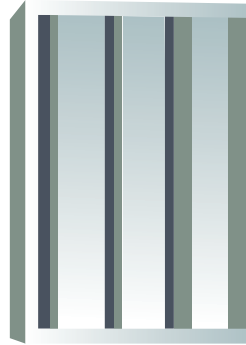
SAND TRAP LOUVER MODEL: DF-STL

For a known air quantity,
calculate face area as follows:

$$\text{Face area (m}^2\text{)} = \frac{\text{Air quantity (m}^3\text{/sec)}}{\text{Face velocity (m/sec)}}$$

The length (m) and width (m) of
sand trap louver can be determined
from the face area calculated with
respect to the opening provided at
the site.

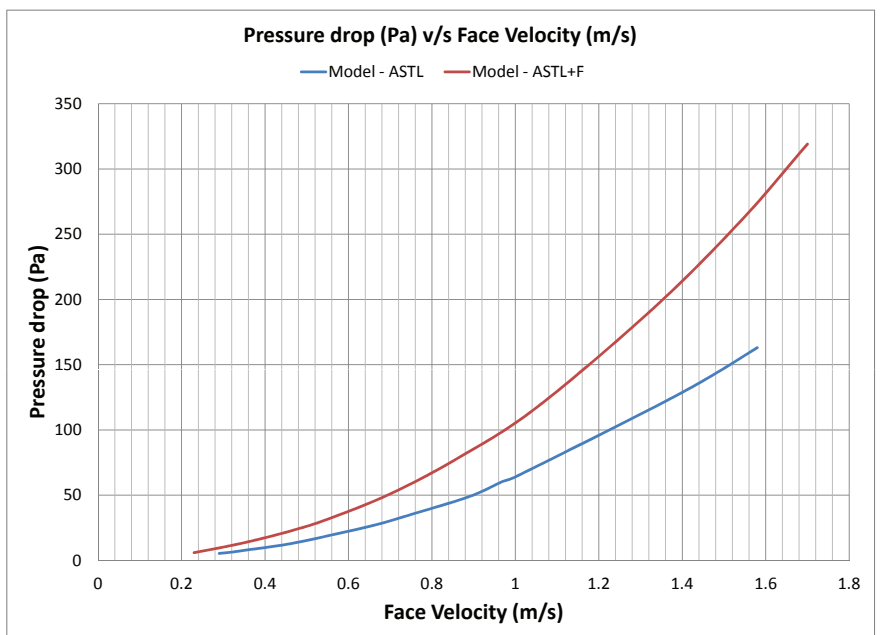
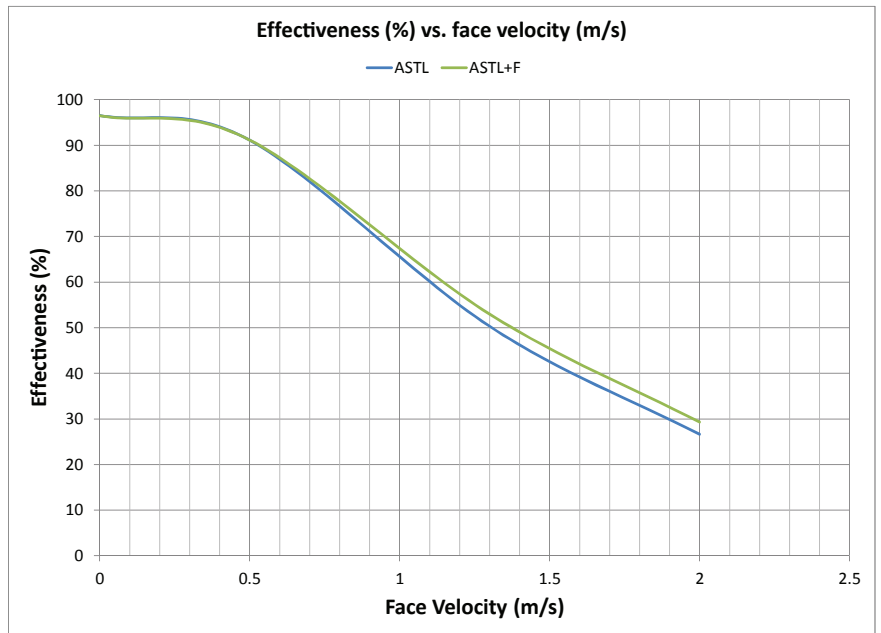
If only free area is known,
calculate face area as follows:
 $\text{Face area (m}^2\text{)} = \text{Free Area (m}^2\text{)} \times 2.7$
The length (m) and width (m) of
sand trap louver can be determined
from the face area calculated with
respect to the opening provided at
the site.



$$\text{Face Velocity (m/s)} = \frac{\text{Air quantity (m}^3\text{/sec)}}{\text{Face area (m}^2\text{)}}$$

$$\text{Free Area Velocity (m/s)} = \frac{\text{Air quantity (m}^3\text{/sec)}}{0.36 \times \text{Length(m)} \times \text{Width(m)}}$$

1 m³/sec = 1000 LPS (Litres per second)



SAND TRAP LOUVER MODEL: DF-STL

Dimensions

Standard Sizes - Single Section

| Width B in mm | 150 | 300 | 450 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 2000 |
|----------------|-----|-----|-----|-----|-----|-----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------|
| Height H in mm | 150 | 300 | 450 | 600 | 750 | 900 | 1050 ¹⁾ | 1200 ¹⁾ | 1350 ¹⁾ | 1500 ¹⁾ | 1650 ¹⁾ | 1800 ¹⁾ | |

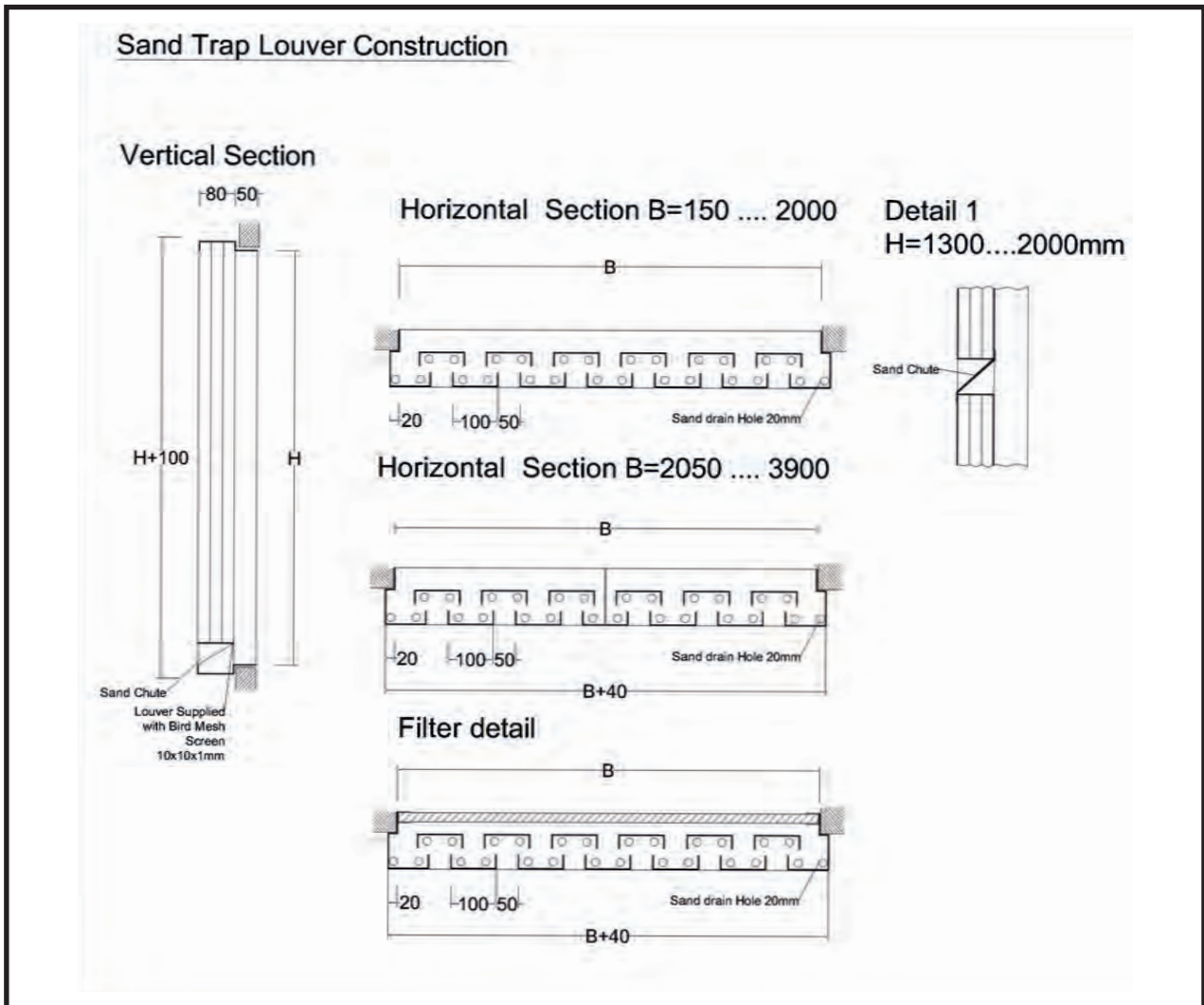
¹⁾ With Split blades and sand chute (see Detail 1)

All combinations for B and H dimensions can be supplied. For sizes larger than indicated in the table several sections can be combined to provide any combination of overall width or height. Sand trap louvers with H between 1300 and 2000 integral sand chutes are fitted (see detail 1), H between 1950 and 3900 they are split on height and supplied with additional sand chute .

Construction

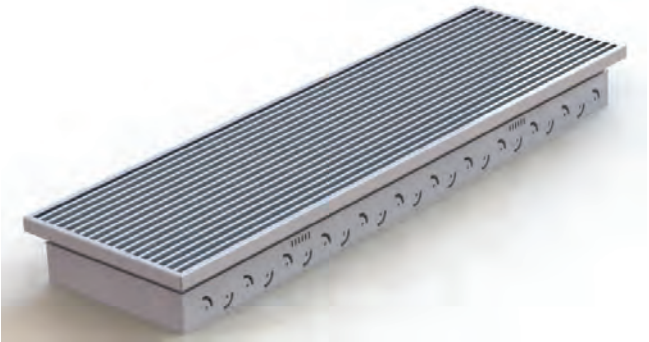
Two rows of vertically arranged channels sections to form a labyrinth for the air path. Base frame has drainage holes for the sand ensuring the louvre is self cleaning and maintenance free.

Sand trap louvers with B = 2050 to 3900 are also split into end section left, end section right and middle if required.

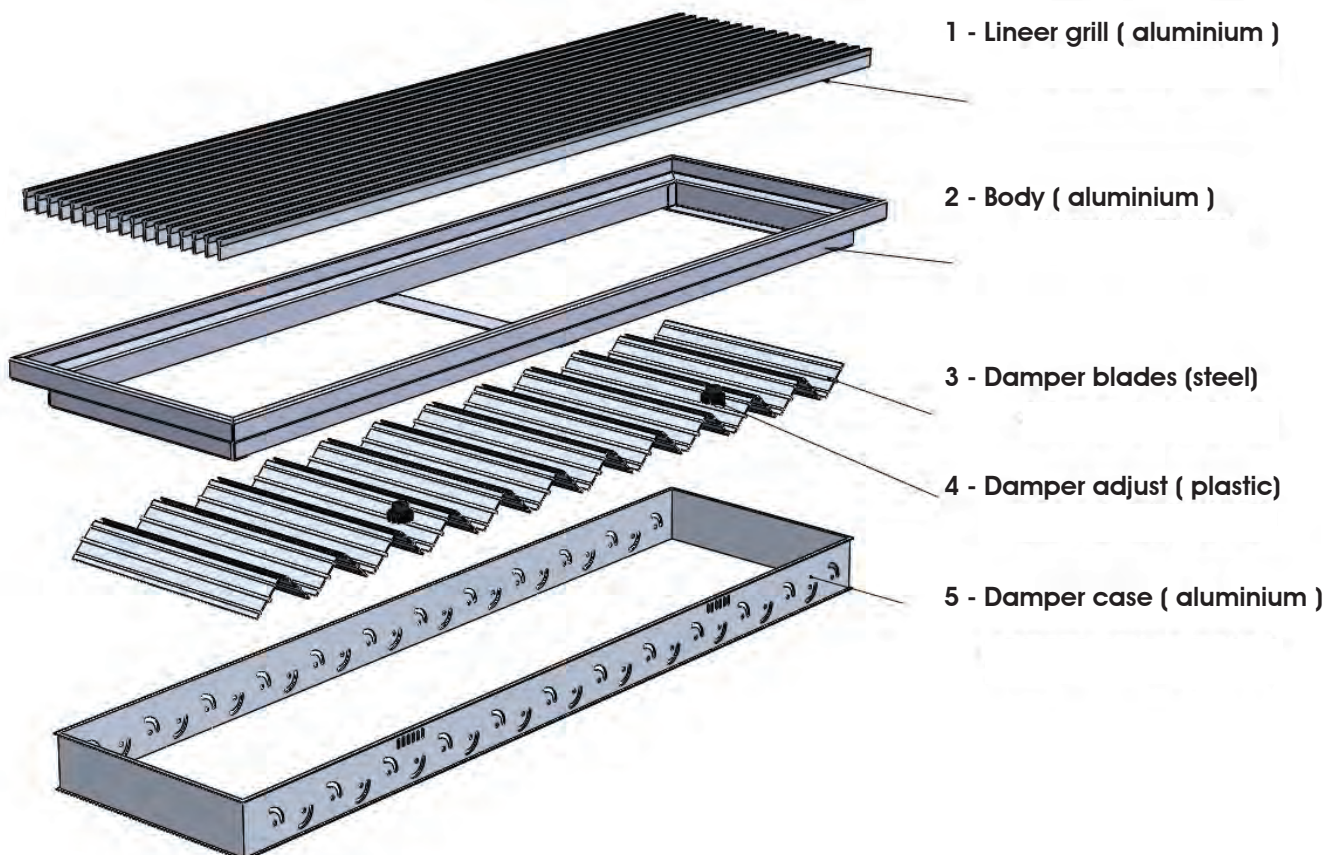


FLOOR GRILLIE

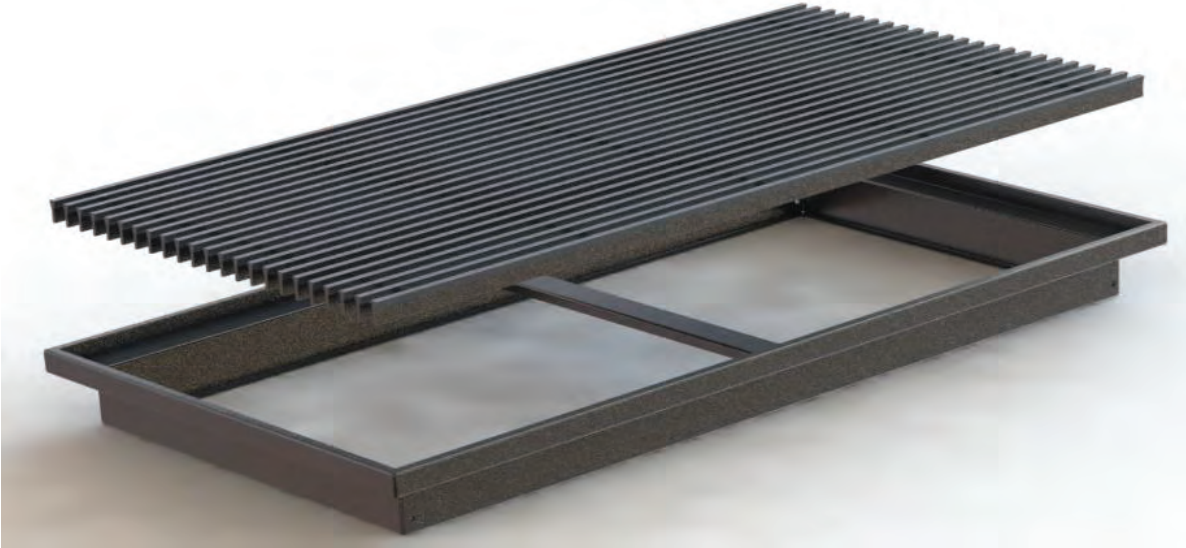
Floor Grille , using for suction or supply air grill at large public areas.
Floor grilles are able to install floors, so strongly constructed and elegant design. With strong casing design, should step on grills. Aluminum Blades and body.



Resistant for Corrosion resistant and capable with aluminium blade design.
It can be easily interferred airflow with damper/blade system outwardly.
It can be adjustable airflow with dampers.
Optional colours with standard RAL codes or Anodized coating. Customized production and optional sizing production.



FLOOR GRILLIE



VIEW

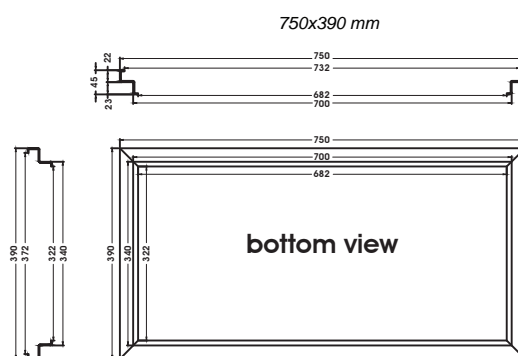
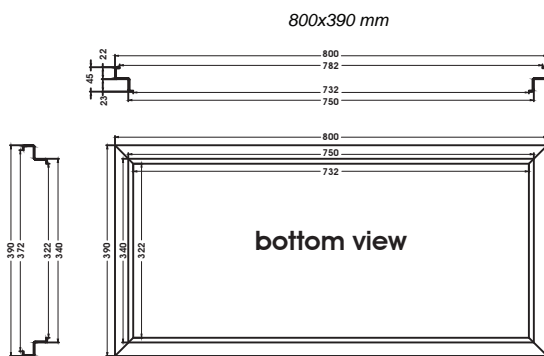
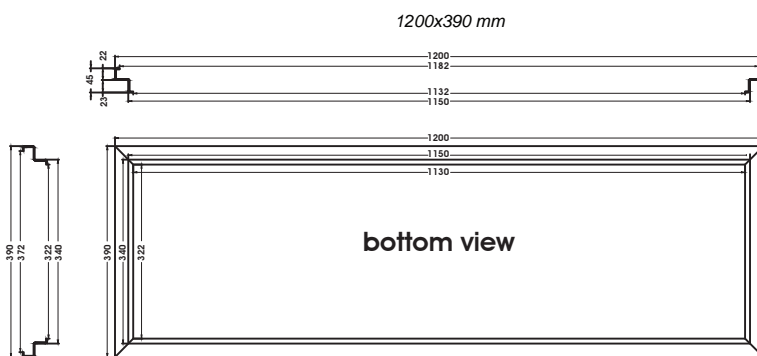
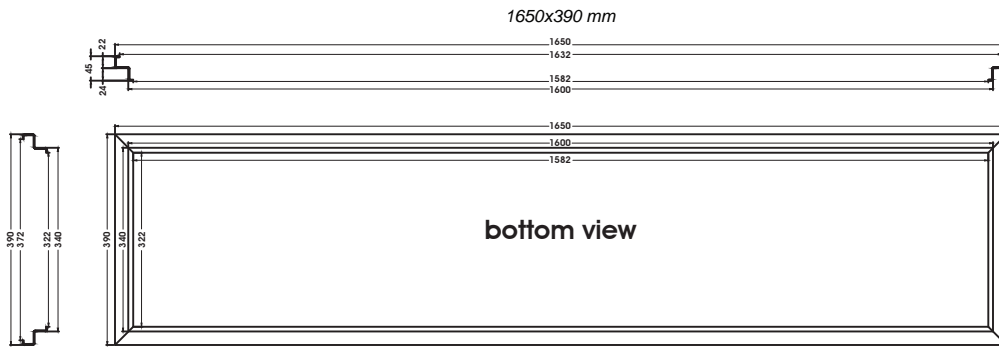


Damper Type



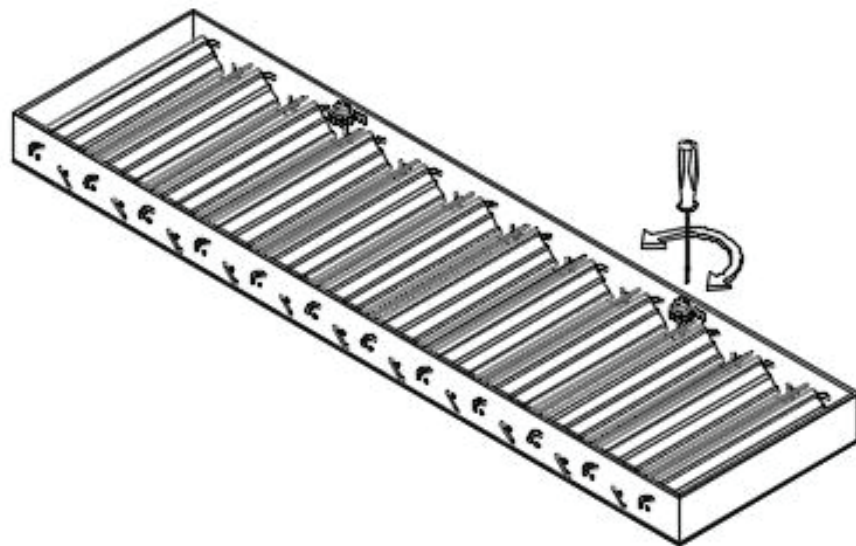
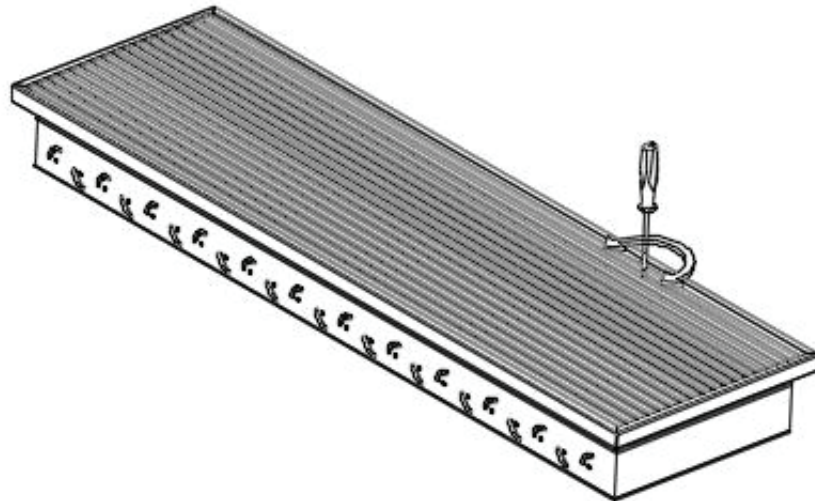
Non - Damper Type

FLOOR GRILLIE



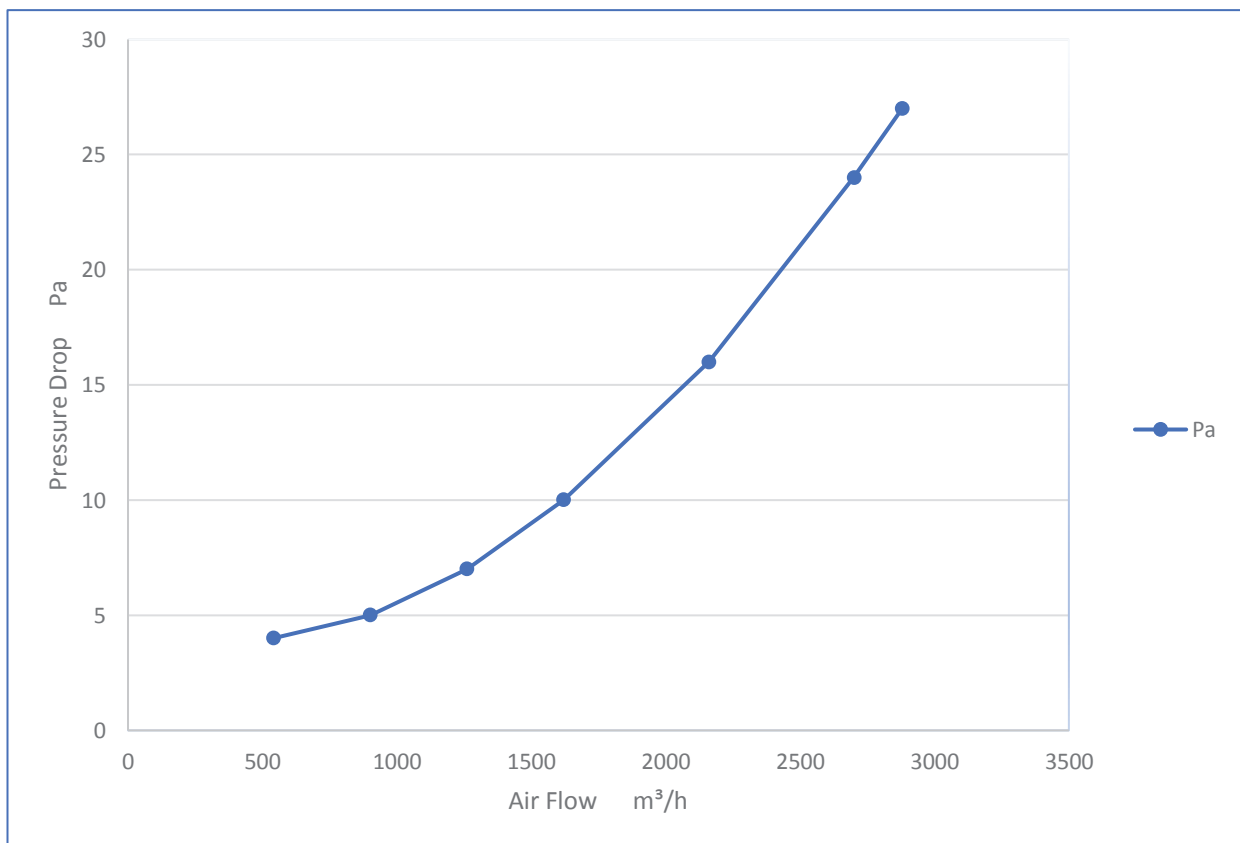
FLOOR GRILLIE

Flow Adjusting



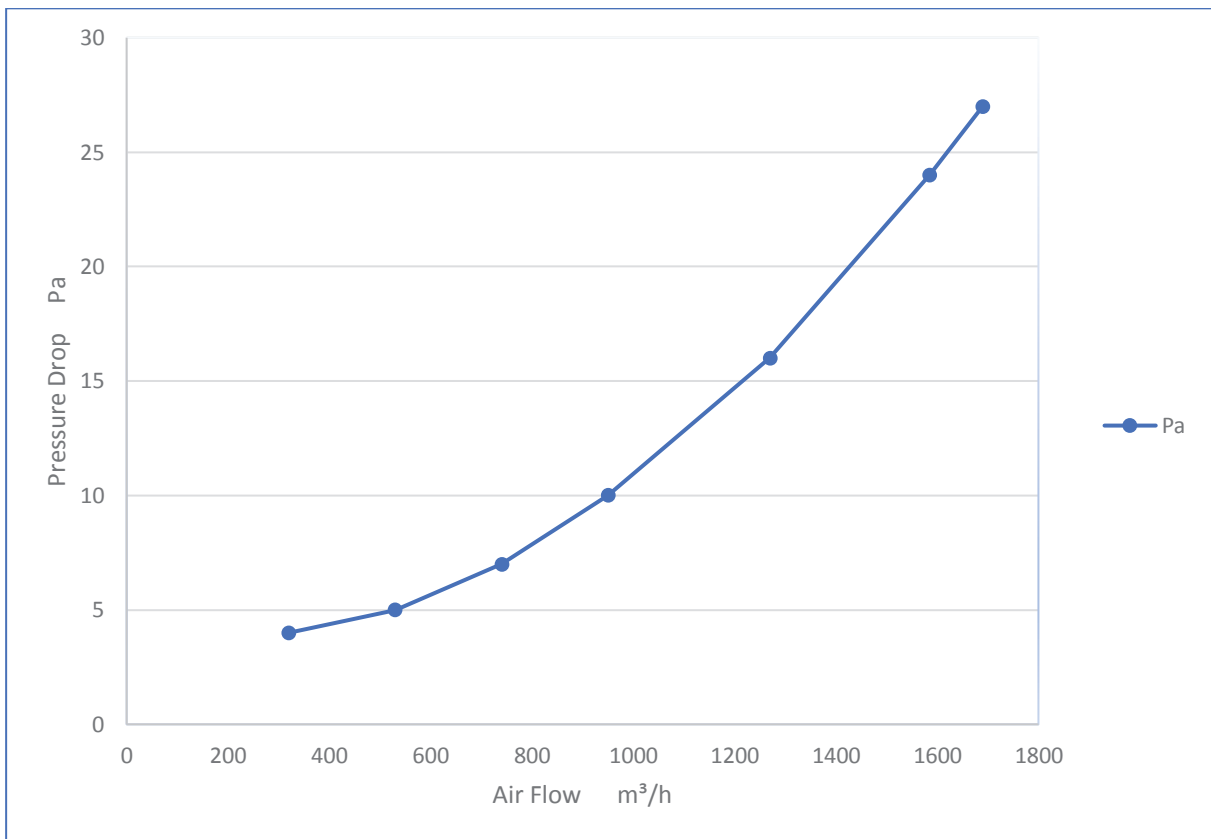
FLOOR GRILLIE

| Flow Rate & pressure Drop - Floor Grille 600*600 mm | | | |
|---|--------------------------|---------------------|--------------------|
| Air Flow Rate (m ³ /h) | Effective Velocity (m/s) | Pressure Drop (Pa) | Throw Distance (m) |
| 540 | 1,1 | 4 | 2-3 |
| 900 | 1,9 | 5 | 3-5 |
| 1260 | 2,7 | 7 | 4-7 |
| 1620 | 3,4 | 10 | 5-8 |
| 2160 | 4,6 | 16 | 8-12 |
| 2700 | 5,7 | 24 | 9-13 |
| 2880 | 6,1 | 27 | 10-14 |



FLOOR GRILLIE

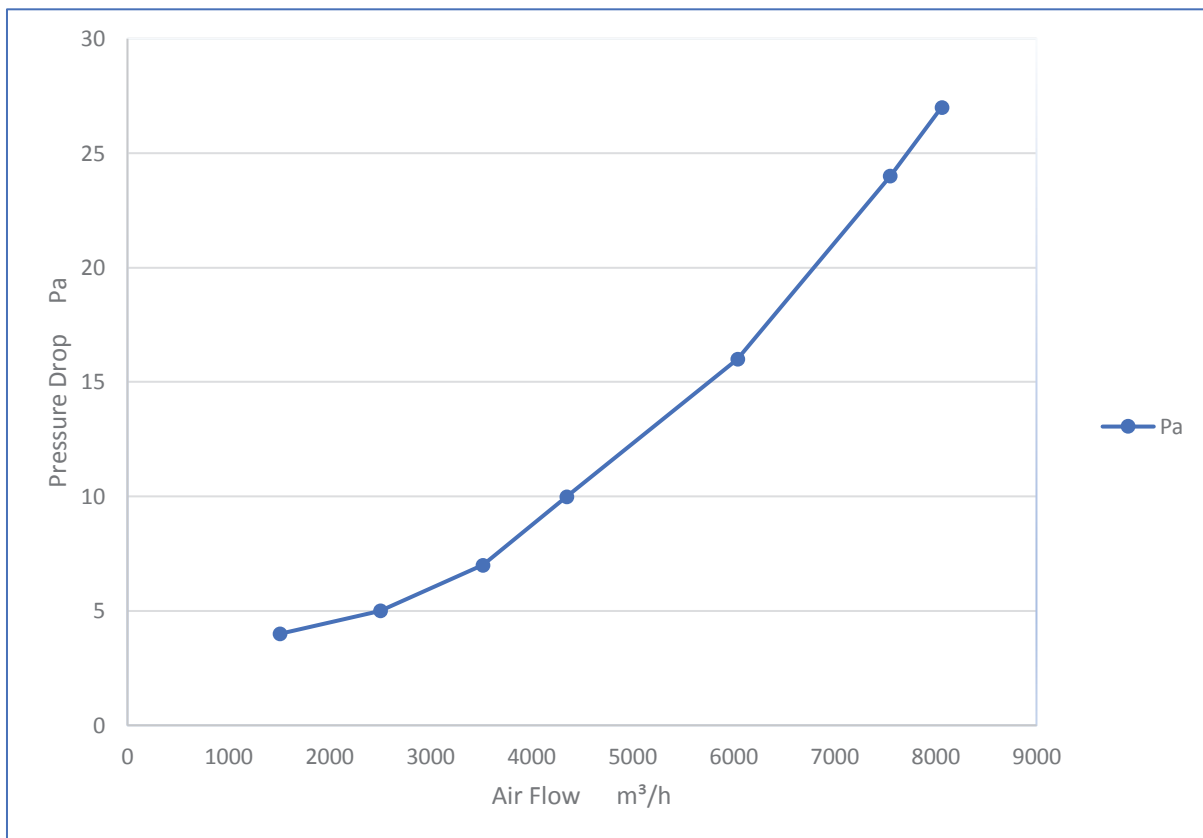
| Flow Rate & pressure Drop - Floor Grille 350*600 mm | | | |
|---|--------------------------|---------------------|--------------------|
| Air Flow Rate (m ³ /h) | Effective Velocity (m/s) | Pressure Drop (Pa) | Throw Distance (m) |
| 320 | 1,1 | 4 | 2-3 |
| 530 | 1,9 | 5 | 2-3 |
| 740 | 2,7 | 7 | 3-4 |
| 950 | 3,4 | 10 | 3-6 |
| 1270 | 4,6 | 16 | 5-7 |
| 1585 | 5,7 | 24 | 5-8 |
| 1690 | 6,1 | 27 | 6-9 |



FLOOR GRILLIE

Flow Rate & pressure Drop - Floor Grille 1000*1000 mm

| Air Flow Rate (m ³ /h) | Effective Velocity (m/s) | Pressure Drop (Pa) | Throw Distance (m) |
|------------------------------------|--------------------------|---------------------|--------------------|
| 1510 | 1,1 | 4 | 3-6 |
| 2500 | 1,9 | 5 | 5-7 |
| 3520 | 2,7 | 7 | 6-9 |
| 4330 | 3,4 | 10 | 10-13 |
| 6040 | 4,6 | 16 | 15-18 |
| 7550 | 5,7 | 24 | 20-23 |
| 8060 | 6,1 | 27 | 20-25 |



CEILING SWIRL DIFFUSERS

Application

- Ceiling swirl diffusers are used as supply air diffusers for high rooms in comfort and industrial zones
 - For production halls, gymnasiums, theatres and conference rooms as well as for large internal spaces in airports, railway stations and shopping centres
 - For mixed flow ventilation with different air patterns in heating and cooling modes
 - Horizontal swirling supply air discharge in cooling mode
 - The efficient swirl creates high induction levels, thereby rapidly reducing the temperature difference and airflow velocity
 - Angled or vertical air discharge in heating mode
-
- For variable and constant volume flows
 - For supply air to room air temperature differences from -12 to $+15$ K
 - For room heights exceeding 3.8 m

Nominal sizes

- 425, 600, 775, 1050



Description

Variants

- Diffuser face only

Connection

- H: Horizontal duct connection
- V: Vertical duct connection

Parts and characteristics

- Square diffuser face with four sections of blades
- Diffuser face with blades that can be adjusted simultaneously, for air discharge from horizontal (0°) to vertical (90°)

Materials and surfaces

- Diffuser face made of extruded aluminium sections
- Plenum box, made of galvanised sheet steel
- ± P1: Powder-coated, RAL CLASSIC colour

Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135

CEILING SWIRL DIFFUSERS

Function

Functional description

Ceiling swirl diffusers in air conditioning systems create a swirl to supply air to rooms. The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling swirl diffusers allow for large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone.

ceiling swirl diffusers have adjustable air control blades. Different air patterns allow for cooling or heating mode, or for the adjustment to varying loads. Horizontal air discharge is omni directional. Vertical air discharge is possible in heating mode. The supply air to room air temperature difference may range from -12 to +15 K.

Technical data

| | |
|--|---|
| Nominal sizes | 425, 600, 775, 1050 mm |
| Minimum volume flow rate | 95 – 675 l/s or 342 – 2430 m ³ /h |
| Maximum volume flow rate, with $L_{WA} \cong 50$ dB(A) | 280 – 1490 l/s or 1008 – 5364 m ³ /h |
| Supply air to room air temperature difference | -12 to +15 K |

Technical data

- Nominal sizes: 425, 600, 775, 1050 mm
- Minimum volume flow rate: 95 – 675 l/s or 342 – 2430 m³/h
- Maximum volume flow rate, with $L_{WA} \cong 50$ dB(A): 280 – 1490 l/s or 1008 – 5364 m³/h
- Supply air to room air temperature difference: -12 to +15 K

CEILING SWIRL DIFFUSERS

Quick sizing

Quick sizing tables provide a good overview of the volume flow rates and corresponding sound power levels and differential pressures.

The maximum volume flow rates apply to a sound power level of approx. 50 dB (A) with damper blade position 0°.

Exact values for all parameters can be determined with our Easy Product Finder design programme.

HORIZONTAL, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t | L_{WA} |
|--------------|-----------|-------------------|--------------|----------|
| | l/s | m ³ /h | Pa | dB(A) |
| 425 | 95 | 342 | 6 | 21 |
| | 150 | 540 | 15 | 32 |
| | 215 | 774 | 31 | 42 |
| | 280 | 1008 | 52 | 50 |
| 600 | 210 | 756 | 9 | 28 |
| | 310 | 1116 | 20 | 37 |
| | 410 | 1476 | 35 | 44 |
| | 510 | 1836 | 54 | 50 |
| 775 | 375 | 1350 | 8 | 26 |
| | 510 | 1836 | 14 | 34 |
| | 660 | 2376 | 23 | 41 |
| | 885 | 3186 | 42 | 50 |
| 1050 | 675 | 2430 | 13 | 36 |
| | 825 | 2970 | 19 | 41 |
| | 975 | 3510 | 27 | 46 |
| | 1120 | 4032 | 35 | 50 |

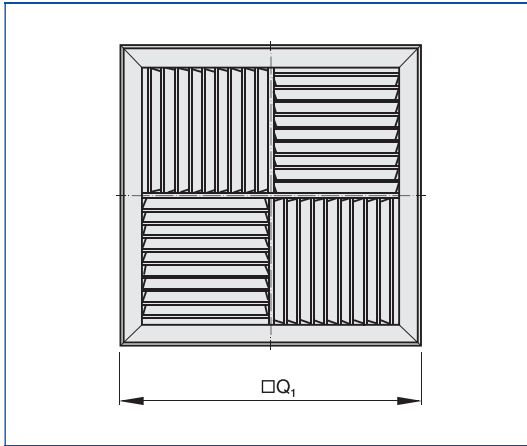
VERTICAL, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t | L_{WA} |
|--------------|-----------|-------------------|--------------|----------|
| | l/s | m ³ /h | Pa | dB(A) |
| 425 | 95 | 342 | 6 | 17 |
| | 175 | 630 | 19 | 31 |
| | 260 | 936 | 41 | 41 |
| | 340 | 1224 | 70 | 50 |
| 600 | 210 | 756 | 7 | 19 |
| | 355 | 1278 | 21 | 32 |
| | 410 | 1476 | 28 | 36 |
| | 660 | 2376 | 75 | 50 |
| 775 | 375 | 1350 | 6 | 22 |
| | 545 | 1962 | 14 | 32 |
| | 715 | 2574 | 24 | 42 |
| | 885 | 3186 | 38 | 50 |
| 1050 | 675 | 2430 | 11 | 30 |
| | 950 | 3420 | 22 | 38 |
| | 1225 | 4410 | 37 | 44 |
| | 1490 | 5364 | 55 | 50 |

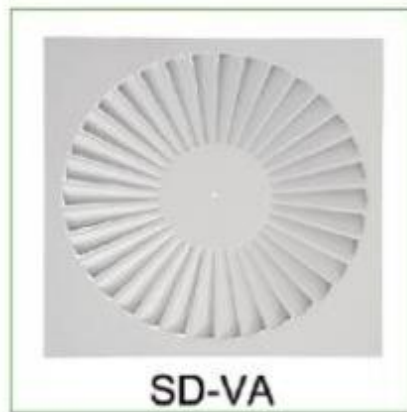
CEILING SWIRL DIFFUSERS

Product details

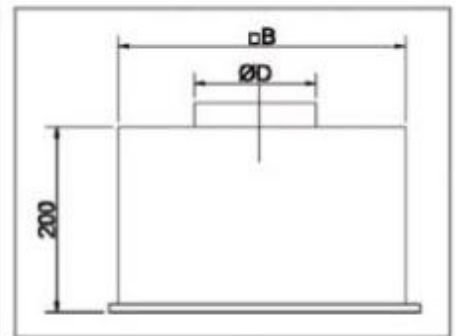
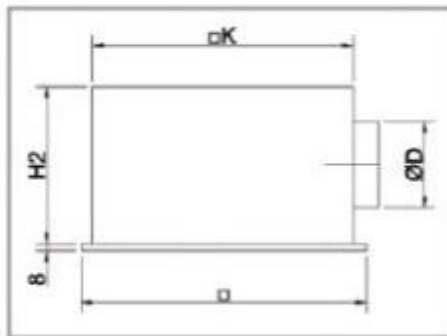
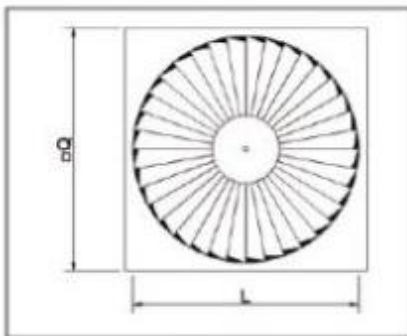
Diffuser face



| Nominal size | $\square Q_1$ | A_{eff} | A_{eff} vertical air discharge |
|--------------|---------------|------------------|---|
| | mm | m ² | m ² |
| 425 | 425 | 0.0307 | 0.0781 |
| 600 | 595 | 0.0685 | 0.1819 |
| 775 | 763 | 0.1242 | 0.3405 |
| 1050 | 1043 | 0.2247 | 0.6358 |



- * They are used as supply diffuser on the ceiling.
- * They are ideal for the place needs high air volume.
- * They can be used between 2.6m and 4m height.
- * Accessories: Plenum box, round slide damper.
- * Finishing: White powder coating Ral9016, Ral9010, or customized color.



Selection Tables

| Standard size | Effective Area (m ²) | B | D | L | Q | H2 | K | Air volume(m ³ /h) |
|---------------|----------------------------------|-----|-----|-----|-----|-----|-----|-------------------------------|
| 300x300 | 0.009 | 280 | 148 | 250 | 295 | 250 | 290 | 145-200 |
| 400x400 | 0.018 | 364 | 198 | 350 | 395 | 295 | 372 | 180-400 |
| 500x500 | 0.025 | 462 | 198 | 450 | 495 | 295 | 476 | 215-520 |
| 595x595 | 0.030 | 559 | 248 | 538 | 595 | 345 | 567 | 290-600 |
| 600x600 | 0.030 | 559 | 248 | 538 | 598 | 345 | 567 | 290-600 |
| 625x625 | 0.030 | 559 | 248 | 538 | 623 | 345 | 567 | 290-600 |

VOLUME CONTROL DAMPER

STANDARD CONSTRUCTION

FRAME

GALVANIZED STEEL INTERLOCKING HAT CHANNEL FRAME CONSTRUCTION.

BLADES

EXTRUDED ALUMINUM DOUBLE SKIN AIRFOIL BLADE. OPPOSED ACTION.

BEARINGS

NYLO / PVC BEARING

AXLES

12MM SQUARE ZINC PLATED STEEL SPINDLE.

LINKAGE

CONCEALED IN FRAME 10Ga(3mm)
ZINC PLATED STEEL

FINISH

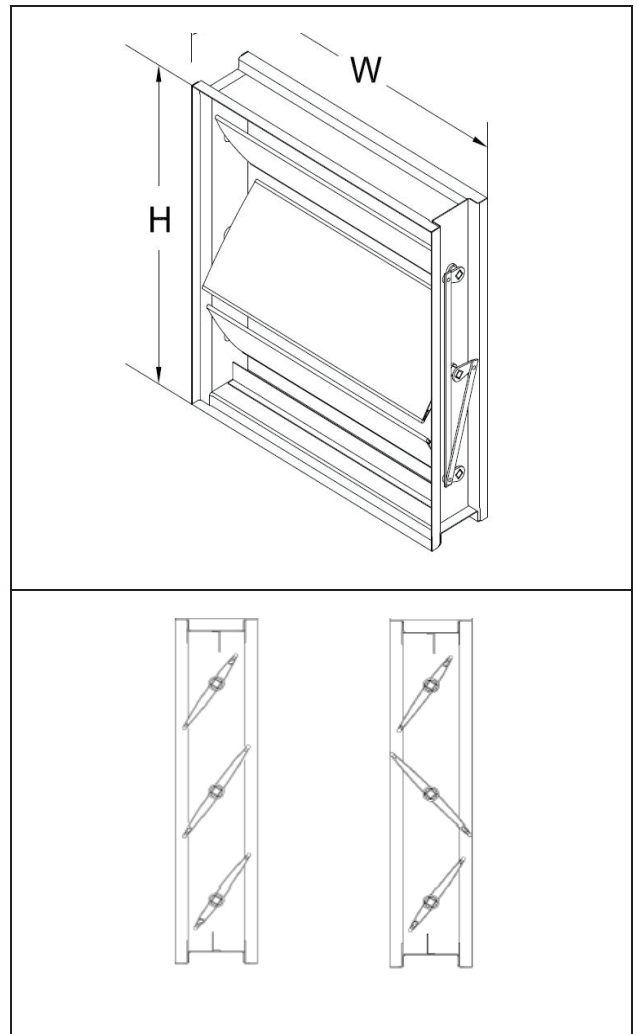
MILL GALVANIZED

OPERATING SHAFT

12" DIAMETER OR 12X12mm ZINC PLATED STEEL SHAFT
EXTENDING (63mm) BEYOND THE AIR CONTROL
DAMPER FRAME.

MANUAL HAND - QUADRANT

DIE CAST HAND QUADRANT
PLATED FOR SQUARE OR ROUND SHAFT
INSTALLED ON ELEVATED BEARING BRACKET



VOLUME CONTROL DAMPER

OPTIONS:

- RUBBER BLADE TIPSEALS.
- SILICONE BLADE SEAL FOR HIGH TEMPERATURE
- STAINLESS STEEL JAMB SEALS.
- BRASS BUSHES
- STAINLESS STEEL BLADE .
- STAINLESS STEEL CONSTRUCTION
- STAINLESS STEEL SPINDLES & SHAFT
- STAINLESS STEEL LINKAGE
- MOTORIZED ACTUATORS (24V - 230V)

SINGLE BLADE:

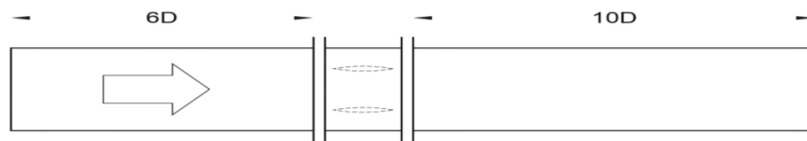
FLAT TYPE FRAME CONSTRUCTION FOR MAXIMUM AIR FLOW FOR SIZE UP TO(125mm) HEIGHT. HAT CHANNEL TYPE FRAME FOR SIZE OF 150MM - HIGHT & ABOVE.

VOLUME CONTROL DAMPER

AIR PERFORMANCE

Pressure Drop

The tests for pressure prop of Volume Control Dampers were conducted as per ANSI / AMCA Standard 500-D, Figure 5.3 which simulate the actual site condition when installed in ventilation, supply and return air conditioning ductworks.



AMCA Test Figure 5.3

Pressure Drop at Face Area Velocity

| 300MM*300MM | |
|----------------|--------------------|
| VELOCITY (M/S) | PRESSURE DROP (PA) |
| 2.5 | 1.5 |
| 3.8 | 4.5 |
| 5.1 | 7.5 |
| 6.4 | 11.5 |
| 7.7 | 16.2 |

| 600MM*600MM | |
|----------------|--------------------|
| VELOCITY (M/S) | PRESSURE DROP (PA) |
| 10.2 | 20 |
| 9 | 14.9 |
| 7.6 | 11 |
| 5.1 | 5 |
| 2.5 | 1.5 |

| 900MM*900MM | |
|----------------|--------------------|
| VELOCITY (M/S) | PRESSURE DROP (PA) |
| 13 | 27.39 |
| 10.2 | 17 |
| 7.6 | 8.7 |
| 5.1 | 4 |
| 2.5 | 1 |

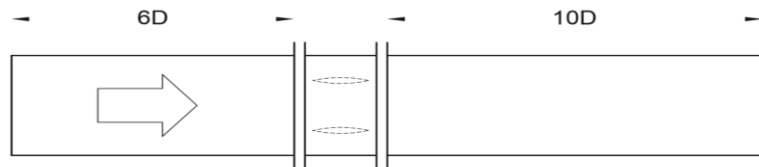
| 300MM*1200MM | |
|----------------|--------------------|
| VELOCITY (M/S) | PRESSURE DROP (PA) |
| 40 | 472.8 |
| 36 | 394.7 |
| 30.7 | 283.6 |
| 20.4 | 124.5 |
| 10.4 | 24 |

| 1200MM*300 | |
|----------------|--------------------|
| VELOCITY (M/S) | PRESSURE DROP (PA) |
| 39.2 | 487.3 |
| 36 | 411 |
| 30.7 | 287.8 |
| 20.4 | 122.51 |
| 10.4 | 30.13 |

VOLUME CONTROL DAMPER

Air Performance

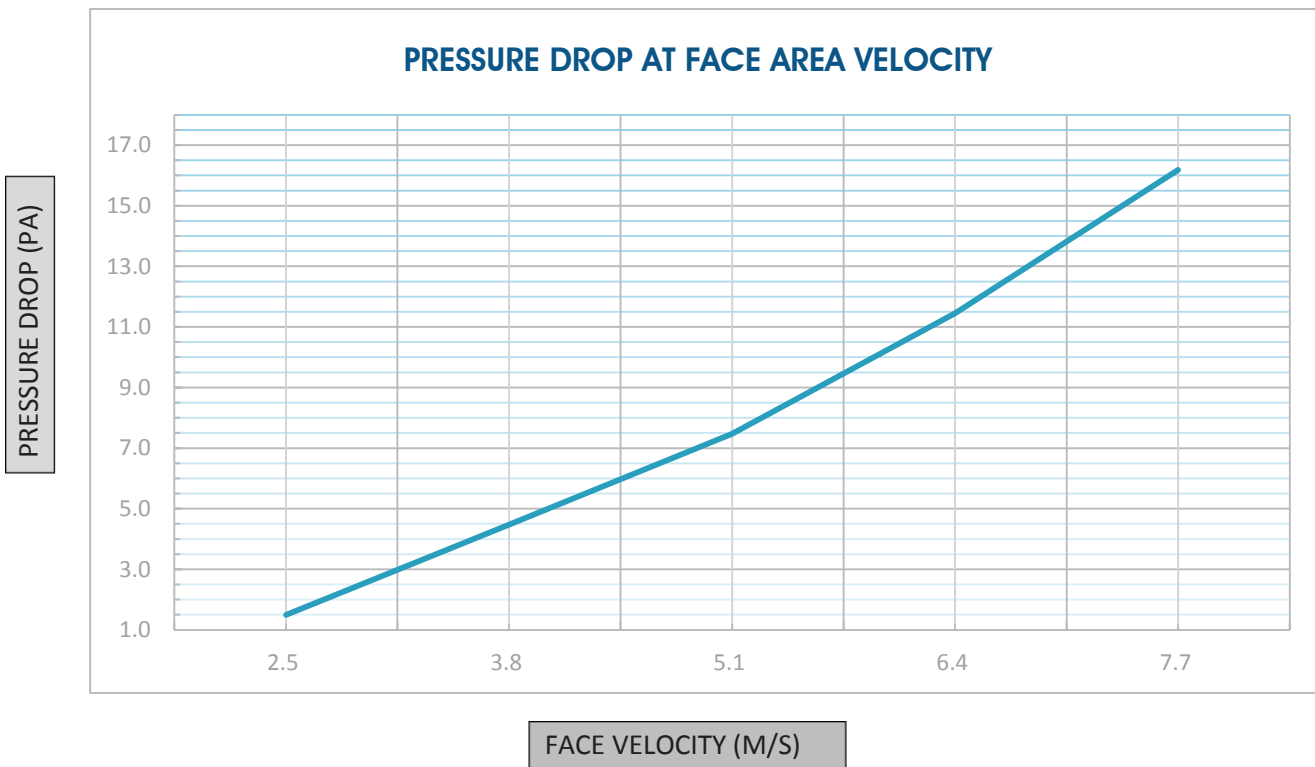
Pressure Drop



AMCA Test Figure 5.3

Pressure Drop at Face Area Velocity

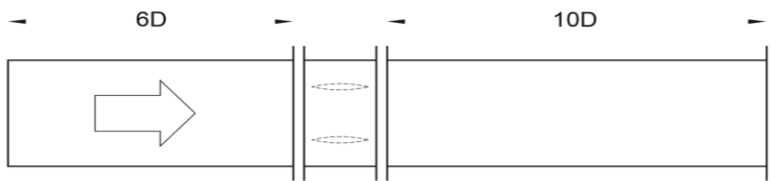
DAMPER SIZE: 300MM*300MM - FULLY OPEN BLADES



VOLUME CONTROL DAMPER

Air Performance

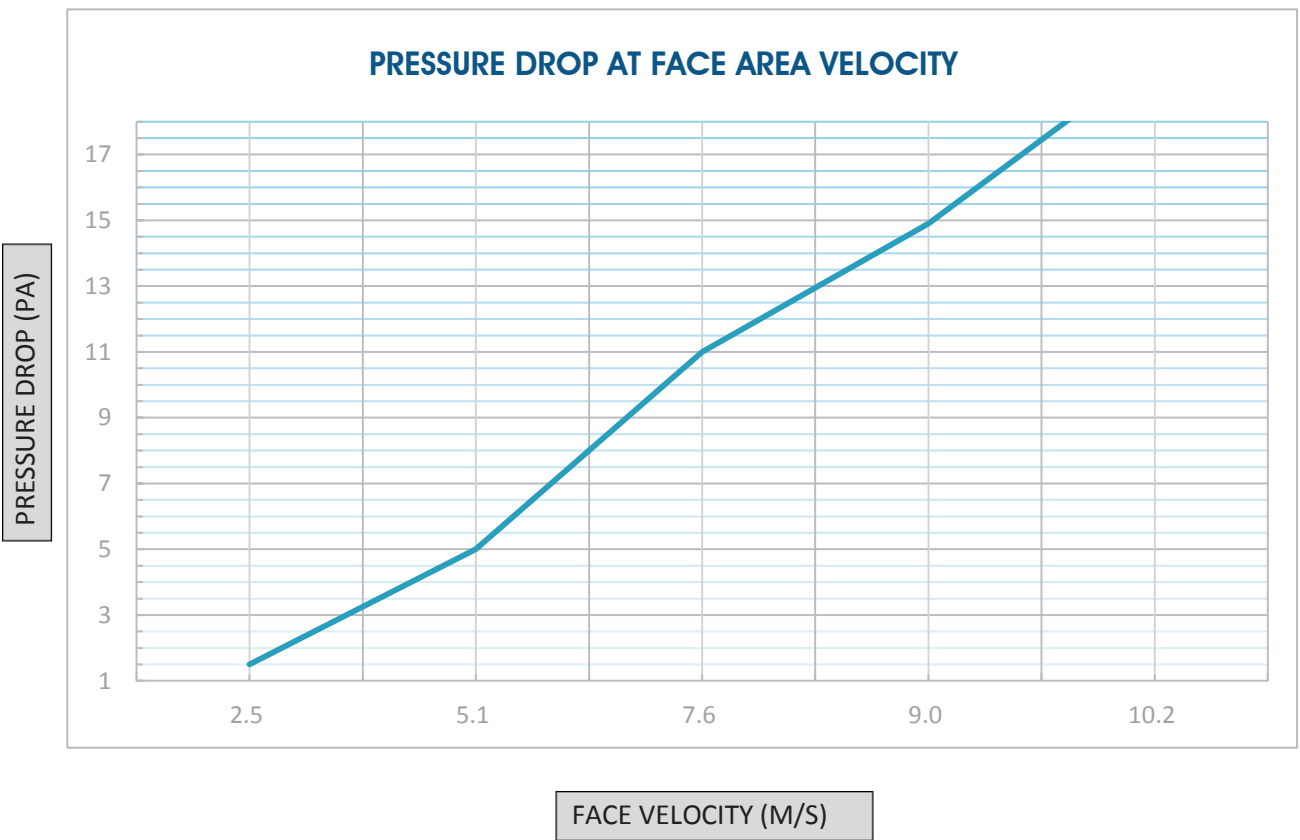
Pressure Drop



AMCA Test Figure 5.3

Pressure Drop at Face Area Velocity

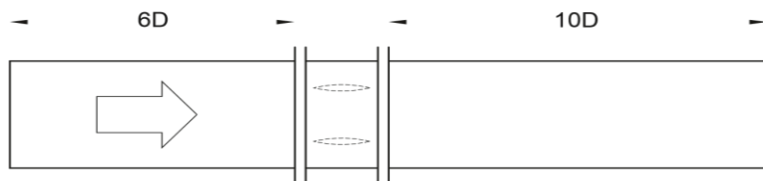
DAMPER SIZE: 600MM*600MM - FULLY OPEN BLADES



VOLUME CONTROL DAMPER

Air Performance

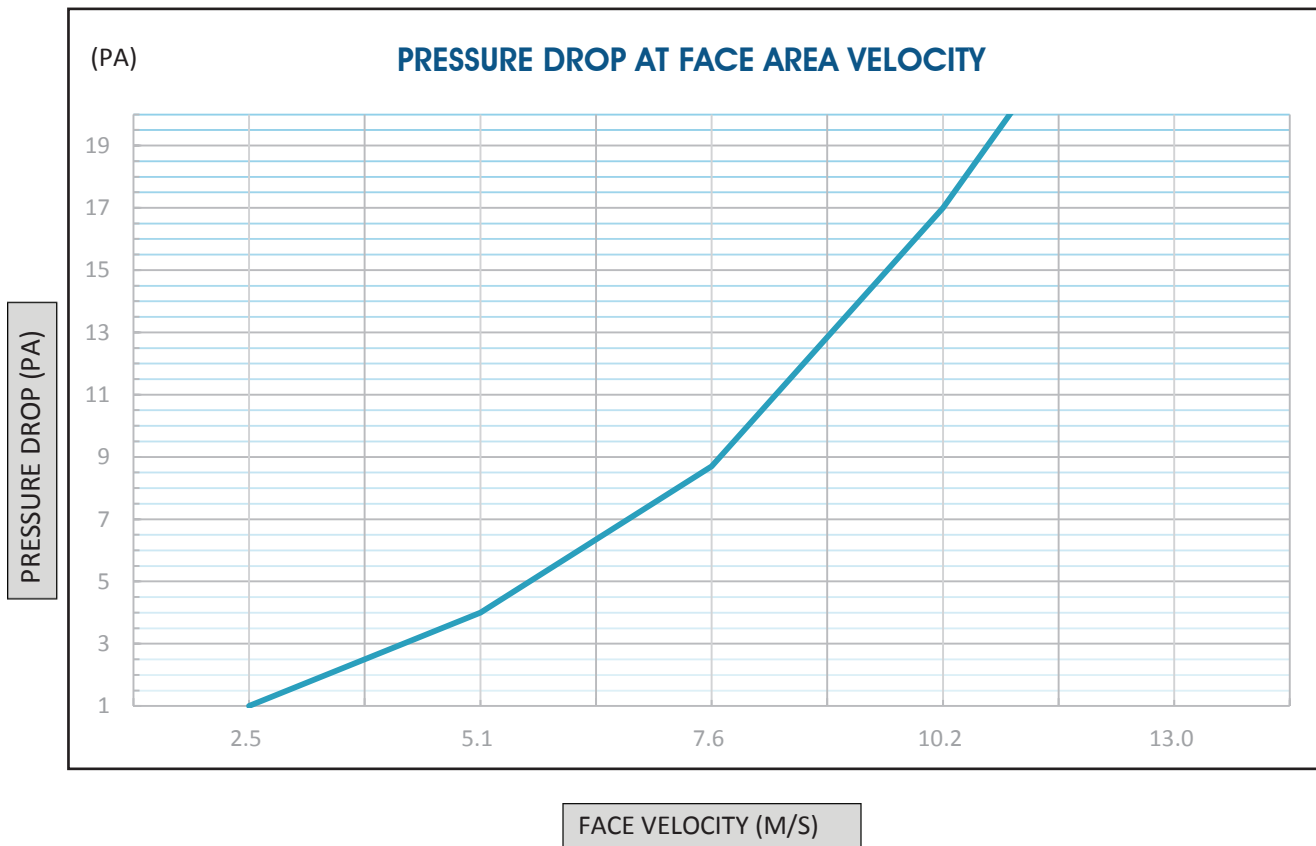
Pressure Drop



AMCA Test Figure 5.3

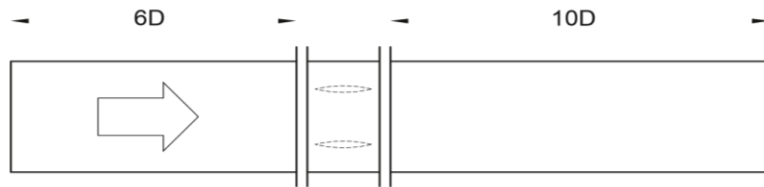
Pressure Drop at Face Area Velocity

DAMPER SIZE: 900MM*900MM - FULLY OPEN BLADES



VOLUME CONTROL DAMPER

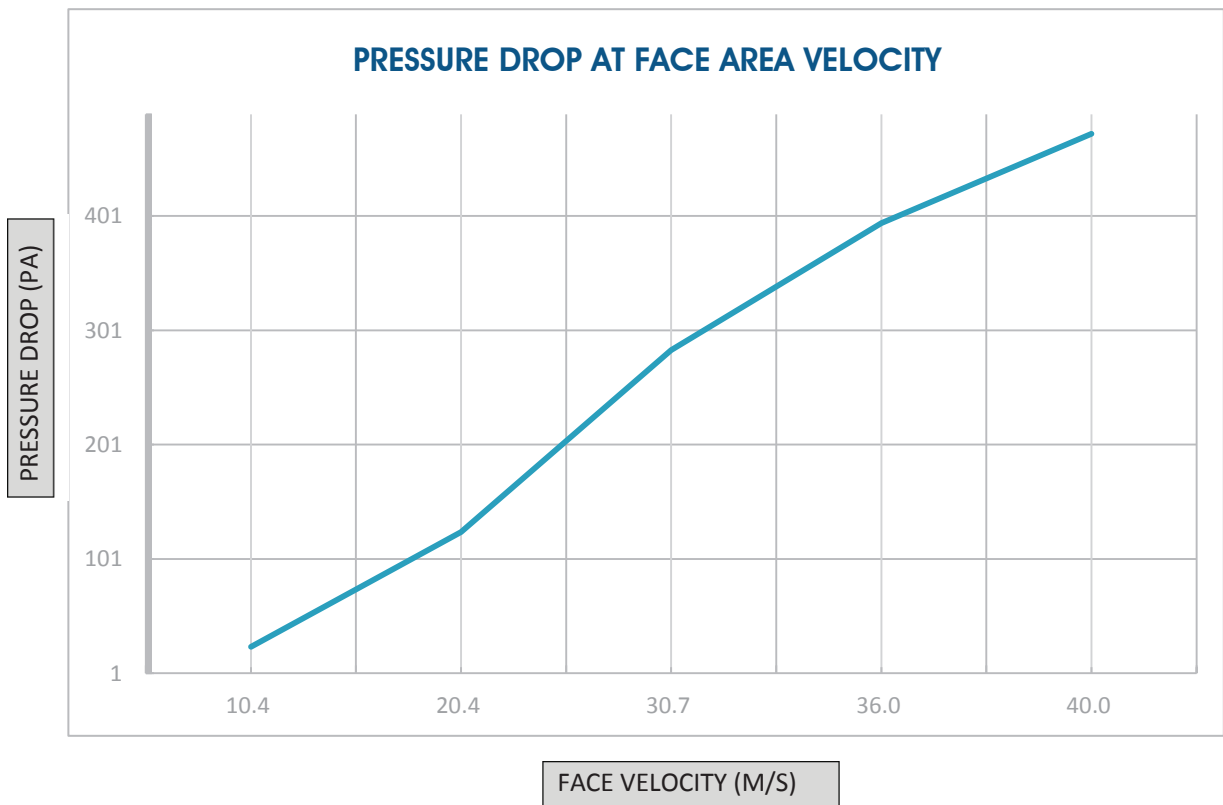
Pressure Drop



AMCA Test Figure 5.3

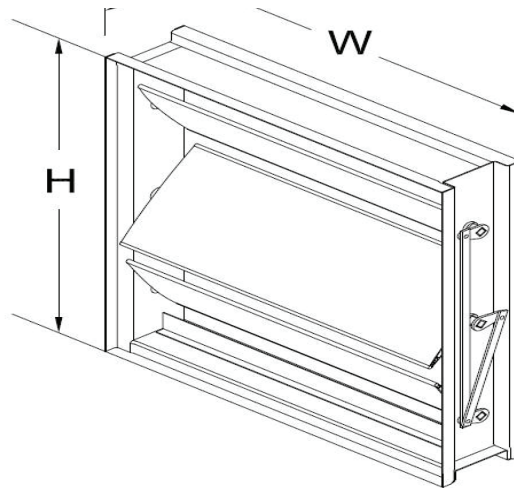
Pressure Drop at Face Area Velocity

DAMPER SIZE: 1200MM * 300MM - FULLY OPEN BLADES



VOLUME CONTROL DAMPER

MANUAL OPERATION FIXED BLANDE



| HEIGHT (MM) | NUMBER OF BLADES |
|-------------|------------------|
| 100 | 1 |
| 150 | 1 |
| 200 | 2 |
| 250 | 2 |
| 300 | 2 |
| 350 | 3 |
| 400 | 3 |
| 450 | 4 |
| 500 | 4 |
| 550 | 4 |
| 600 | 4 |
| 650 | 5 |
| 700 | 5 |
| 750 | 5 |
| 800 | 6 |
| 850 | 6 |
| 900 | 6 |
| 950 | 7 |
| 1000 | 7 |

VOLUME CONTROL DAMPER

PRODUCT RANGE

Linkage

| Construction Variants | Description |
|-----------------------|--|
| S | no seals. |
| S1 | Blades edge seal. Fitted to seal blades to blades join. Blade seal is silicone rubber with temperature resistance up to 175 C, to minimize air leakage. |
| S2 | JAMB seal. Fitted to close gap between frame and blades (jamb seal) to minimize air leakage. |
| S3 | Combination of S1 & S2. fitted to close gap between frame and blades and blades edge seals to seal blades to blades joints. blade seals is silicone rubber with temperature resistance up to 175 C for low air leakage characteristic. |

Linkage

| Construction Variants | Description |
|-----------------------|--|
| PB | side linkage concealed in frame for parallel blade operation |
| OB | side linkage concealed in frame for opposed blade operation |

BUSH

| Construction Variants | Description |
|-----------------------|-------------|
| B1 | PVC Bearing |
| B2 | BRASS |

VOLUME CONTROL DAMPER

ORDER DETAILS

VCD - OB S B - - R - 500 X 500 - G A1

OB = Opposed Blade Operation
 PB = Parallel Blade Operation

Optional Variants - Seals

*S = No Seals

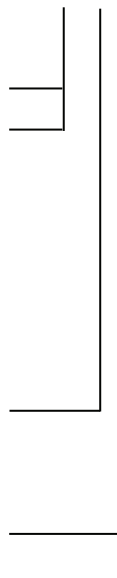
S1 = Blade's Edge Seals

S2 = side seal (jumb seal)

S3 = side seal and blades edge seal

B1 = PVC

B2 = brass



Actuator

Hand Locking
 Quadrant

Duct Size

R = Right Hand

L = Left Hand

ORDER EXAMBLE:

STANDERD

MAKE : DYNFLOW

1.TYPE : VCD - OB 0 B0 R0 S - 500X500 - Q

2.TYPE : VCD - OB- B - R - S - 500X500 - A1

VOLUME CONTROL DAMPER

STANDERD CONSTRUCTION

FRAME

24 gauge sizes up to 12 in
galvanized steel roll formed and
clinched double beaded for
rigidity and spiral Duct connetion

BLADES

Single blade galvanized BLADE

BUSH

Nolon / PVC

Finish

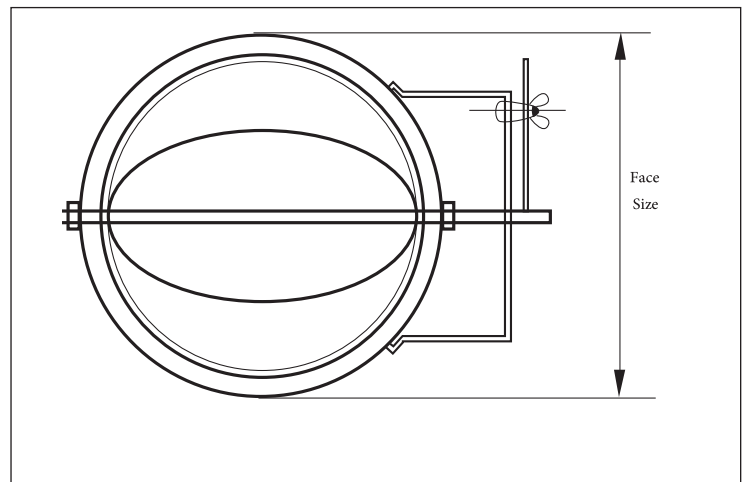
Mill galvanized

Standerd extended shaft

8mm & 12mm square zinc
plated steel Shaft extending
25mm beyond the air control
Damper frame

Sizes

Minimum : 4 di
Maximum : 24 di



OPTION:

IRIS Round danper with double skin bladed & silicon seal.

NON RETURN DAMPERS



••• ••
Non return damper
(duct mounted)



•••••
Non return damper
(wall mounted)

DESCRIPTION

- Non return/pressure relief dampers are designed for use in intake and discharge opening in commercial and residential air conditioning systems.

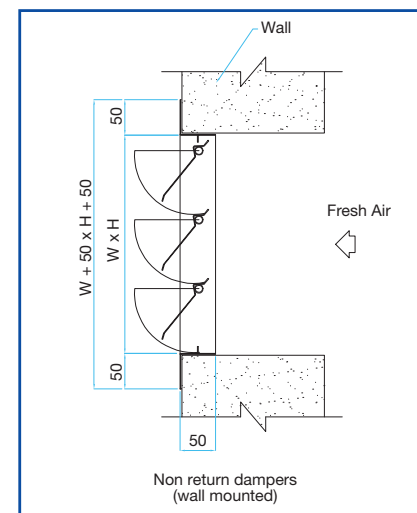
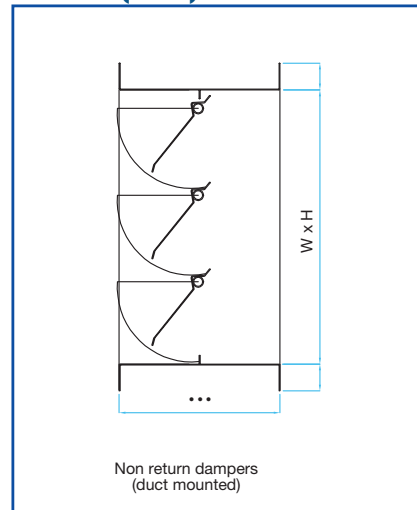
- When the ventilation system is on, the blades of the non-return damper are held in the open position by the airflow.

- If the system is switched off, the damper blades close automatically, thus preventing reverse airflow and giving protection against the ingress of untem-pered air, rain and birds into their conditioning system.

Option :

Gasket is Provided on blade for low leakage.

DIMENSIONS (mm) - PRESSURE DROP



NON RETURN DAMPERS

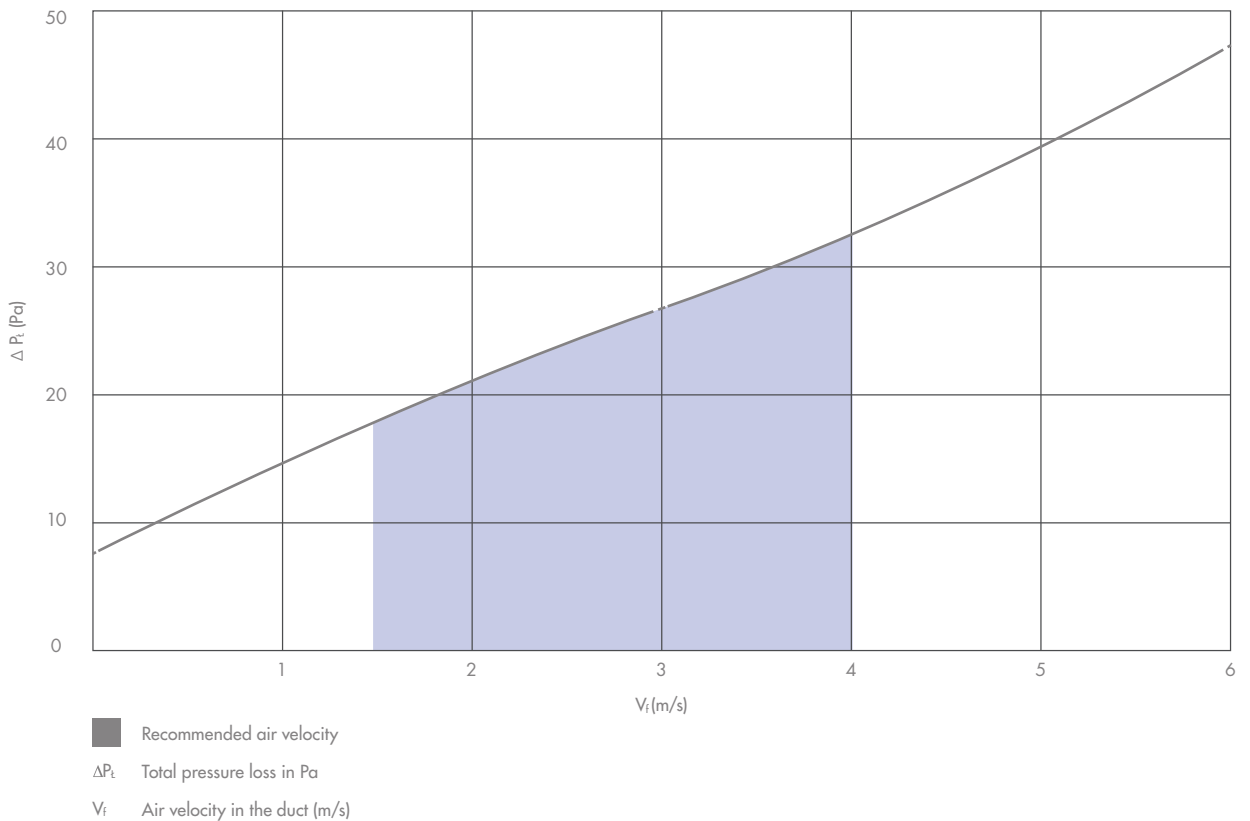
LEAKAGE PERFORMANCE

FOR LOW LEAKAGE CONSTRUCTION

| Static Pressure Drop (Pa) | Static Pressure Drop (in WC) | NRD Leakage (CFM) | Leakage Per Sq Ft (CFM/Sqft) |
|---------------------------|------------------------------|-------------------|------------------------------|
| 101 | 0.4 | 0 | 0 |
| 184 | 0.7 | 0 | 0 |
| 220 | 0.9 | 0 | 0 |
| 285 | 1.1 | 0 | 0 |
| 335 | 1.3 | 0 | 0 |
| 415 | 1.7 | 0 | 0 |
| 470 | 1.9 | 0 | 0 |
| 570 | 2.3 | 0 | 0 |
| 630 | 2.5 | 13.11 | 1.22 |
| 740 | 3.0 | 13.11 | 1.22 |
| 810 | 3.3 | 13.11 | 1.22 |
| 930 | 3.8 | 24.16 | 2.24 |
| 1020 | 4.1 | 24.16 | 2.24 |
| 1150 | 4.6 | 42.70 | 3.97 |

TESTING DONE ON A 1000 X 1000 MM NON-RETURN DAMPER

TECHNICAL PRESSURE DROP



BYPASS TERMINAL UNITS

Models:

The **Bypass Terminal Unit** is a single duct pressure dependent air terminal unit, designed for use with popular constant volume low and medium pressure packaged air handling systems or roof top air conditioning units at low prime cost. Units may be used with cooling and heating/cooling systems. Temperature control is achieved by supplying only enough conditioned air to the space to satisfy room thermostat demand. Excess air is diverted (bypassed) directly to the return air ceiling plenum for free or ducted return. Airflow to each occupied zone will vary on thermostat demand, from full flow to shut-off or to a mechanically set minimum air volume.

A bypass box, commonly referred to also as a "dump box" handles a constant supply of primary air through its inlet and uses a diverting damper to bypass part of the supply air into the plenum return. The damper is directly controlled by the room thermostat in the occupied space to provide the volume of air required to meet the thermal demand. The pressure requirement through the supply air path to the conditioned space is set with an inlet balancing damper. A second manual balancing damper in the bypass is field adjusted to match the resistance in the discharge duct in order to maintain minimum airflow to the space, maintain supply air from the primary system at a constant volume and ensure smooth modulation of the supply airflow volume.

FEATURES:

- Casing – 22 ga. galvanized steel with round or flat oval inlets. Outlets are rectangular with slip and drive connections.
- Damper – New heavy guage steel cylindrical "Flow Diverter" valve design for reliable long term operation. Eliminates any internal damper linkage. 90° rotation. CW to close.
- 1/2" (13) dia. plated steel driveshaft. An indicator mark on the end of the shaft shows damper position.
- 3/4" (19) dual density insulation. Exposed edges are coated to prevent airflow erosion.

- Inlet balancing damper.

- Easily adjustable bypass port balancing dampers.
- Sizes range from 6" (152) to 16" (406) with capacities from 100 to 2750 cfm. Tested in accordance with ANSI/ASHRAE Standard 130-1996

- Compact low profile design is ideally suited for installation in tight spaces.
- Minimum air volume stop on electric actuator. It cannot be factory set and must be field adjusted as required for the application.

Controls:

electronic control. Factory supplied and mounted.

- Variety of control options available, based on applications.

Options:

- Multi-outlet plenum.
- Round/Oval discharge collar.

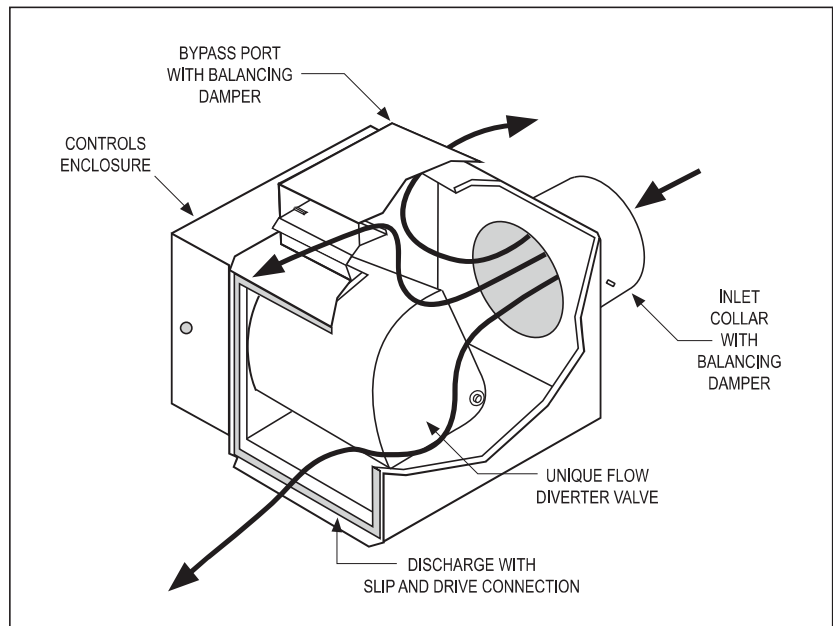
BYPASS TERMINAL UNITS

"Flow Diverter" Valve

bypass terminal units utilize cylindrical

flow diverter valve for superior control and performance. A common problem with standard pivoted single blade damper designs is objectionable noise and loss of modulation due to pulsating and/or a snap-closing action of the valve. This is caused by a poor valve design, which struggles to modulate turbulent airflow and requires excessive torque.

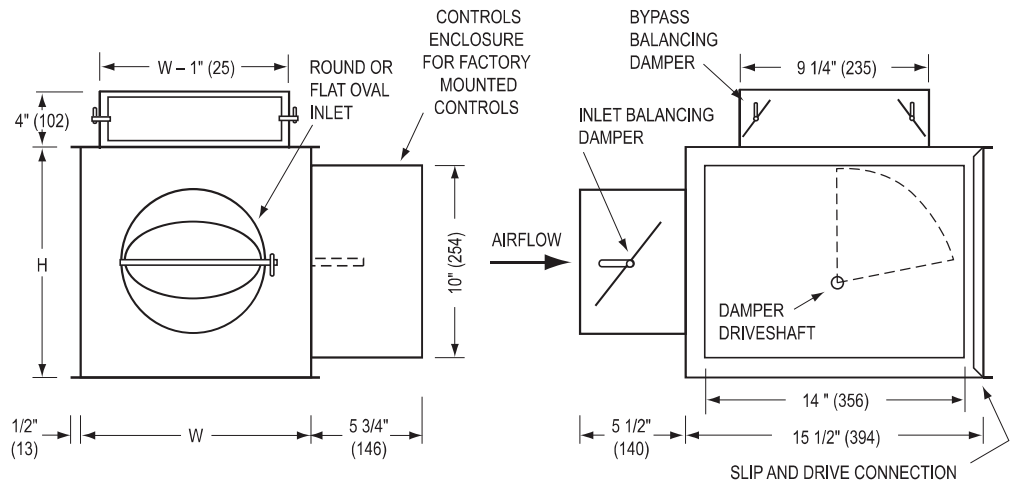
The flow diverter valve eliminates these problems. The rugged cylindrical damper design smoothly modulates between supply and bypass conditions and when installed under airflow is essentially self-balancing, requiring only a negligible torque requirement. The result is superior reliable long-term performance and quiet operation.



BYPASS TERMINAL UNITS

Electronic Controls

- A full controls enclosure is provided for factory mounted controls. Optional for field mounted controls.



Dimensional Data

| Imperial Units (inches) | | | | |
|-------------------------|-----------|----|--------|-------------------------|
| Unit Size | cfm Range | W | H | Inlet Size |
| 6 | 0 – 400 | 10 | 12 1/2 | 5 7/8 Round |
| 8 | 0 – 700 | 12 | 12 1/2 | 7 7/8 Round |
| 10 | 0 – 1100 | 14 | 12 1/2 | 9 7/8 Round |
| 12 | 0 – 1600 | 18 | 12 1/2 | 12 15/16 x 9 13/16 Oval |
| 14 | 0 – 2100 | 24 | 12 1/2 | 16 1/16 x 9 13/16 Oval |
| 16 | 0 – 2800 | 28 | 12 1/2 | 19 3/16 x 9 13/16 Oval |

| Metric Units (mm) | | | | |
|-------------------|-----------|-----|---|----------------|
| Unit Size | l/s Range | W | H | Inlet Size |
| 6 | 0 – 189 | 254 | | 149 Round |
| 8 | 0 – 330 | 305 | | 200 Round |
| 10 | 0 – 519 | 356 | | 251 Round |
| 12 | 0 – 755 | 457 | | 329 x 249 Oval |
| 14 | 0 – 991 | 610 | | 408 x 249 Oval |
| 16 | 0 – 1322 | 711 | | 487 x 249 Oval |

BYPASS TERMINAL UNITS

Dimensions • Bypass Terminal Unit Accessories

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.

BYPASS TERMINAL UNITS

Dimensions

• Bypass Terminal Unit Accessories

Discharge Sound Attenuator

SIDE VIEW: 36" (914) STANDARD, H
 END VIEW: W

- Shipped loose for field attachment.
- Slip and drive connection.
- dual density internal insulation standard. Treated to prevent erosion.

Round Discharge Collar

SIDE VIEW: H, 4" (102), 2" (51), NOM. - 1/8" (3)
 END VIEW: W

MOA Multi-Outlet Attenuator (3 ft. (914))

SIDE VIEW: 36" (914) STANDARD, H
 END VIEW: W, 4" (102) TYPICAL

| Unit Size | M.O.A. Outlets |
|-------------------|-------------------------------|
| 6 (152) | 3 @ 6" (152) |
| 8 (203) | 5 @ 8" (203) 5 @ 6" (152) |
| 10 (254) | 3 @ 10" (254) 5 @ 8" (203) |
| 12 (305) | 5 @ 8" (203) 5 @ 10" (254) |
| 14, 16 (356, 406) | 5 @ 10" (254) |

- Only one outlet size to be specified per M.O.A. No mixing of outlet sizes on the same unit. Number and size of outlets on M.O.A. not to exceed the limits listed in table, both maximum quantity of outlets and maximum size of outlet.
- All round outlets c/w manual dampers with hand locking quadrant.
- 3/4" (19) dual density insulation.
- Denotes inlet airflow direction. ➤

Standard Outlet Arrangements

A B C D E F G H J K

Dimensional Data

| Unit Size | Imperial Units | | | Metric Units | | |
|-----------|----------------|------|----------------|--------------|-----|----------------|
| | W | H | FF Outlet Size | W | H | FF Outlet Size |
| 6 | 10 | 12 ½ | 6 | 254 | 318 | 152 |
| 8 | 12 | 12 ½ | 8 | 305 | 318 | 203 |
| 10 | 14 | 12 ½ | 10 | 356 | 318 | 254 |
| 12 | 18 | 12 ½ | 12 | 457 | 318 | 305 |
| 14 | 24 | 12 ½ | 14 | 610 | 318 | 356 |
| 16 | 28 | 12 ½ | 16 | 711 | 318 | 406 |

BYPASS TERMINAL UNITS

Performance Data • NC Level Application Guide

| Inlet Size | Airflow | | Min. Discharge Δ Ps | | Min. Bypass Δ Ps | | NC Levels | | |
|------------|---------|------|----------------------------|----|-------------------------|-----|-----------|---------------|-------------|
| | | | | | | | Discharge | Radiated | |
| | | | | | | | | Bypass Closed | Bypass Open |
| 6 | 400 | 189 | 0.01 | 2 | 0.14 | 35 | - | - | 25 |
| | 300 | 142 | 0.01 | 2 | 0.08 | 20 | - | - | - |
| | 200 | 94 | 0.01 | 2 | 0.04 | 10 | - | - | - |
| | 100 | 47 | 0.01 | 2 | 0.01 | 2 | - | - | - |
| 8 | 700 | 330 | 0.01 | 2 | 0.21 | 52 | - | - | 30 |
| | 500 | 236 | 0.01 | 2 | 0.11 | 27 | - | - | 20 |
| | 350 | 165 | 0.01 | 2 | 0.05 | 12 | - | - | - |
| | 200 | 94 | 0.01 | 2 | 0.02 | 5 | - | - | - |
| 10 | 1100 | 519 | 0.01 | 2 | 0.43 | 107 | - | 20 | 37 |
| | 800 | 378 | 0.01 | 2 | 0.23 | 57 | - | - | 25 |
| | 500 | 236 | 0.01 | 2 | 0.09 | 22 | - | - | - |
| | 250 | 118 | 0.01 | 2 | 0.02 | 5 | - | - | - |
| 12 | 1600 | 755 | 0.01 | 2 | 0.50 | 124 | - | 20 | 40 |
| | 1200 | 566 | 0.01 | 2 | 0.28 | 70 | - | - | 33 |
| | 800 | 378 | 0.01 | 2 | 0.13 | 32 | - | - | 22 |
| | 400 | 189 | 0.01 | 2 | 0.03 | 7 | - | - | - |
| 14 | 2100 | 991 | 0.05 | 12 | 0.50 | 124 | - | 31 | 43 |
| | 1600 | 755 | 0.03 | 7 | 0.29 | 72 | - | 24 | 35 |
| | 1050 | 495 | 0.01 | 2 | 0.12 | 30 | - | - | 23 |
| | 550 | 260 | 0.01 | 2 | 0.03 | 7 | - | - | - |
| 16 | 2750 | 1298 | 0.06 | 15 | 0.50 | 124 | 21 | 34 | 47 |
| | 2050 | 967 | 0.03 | 7 | 0.28 | 70 | - | 24 | 37 |
| | 1375 | 649 | 0.01 | 2 | 0.13 | 32 | - | - | 27 |
| | 700 | 330 | 0.01 | 2 | 0.03 | 7 | - | - | - |

Performance Notes:

1. NC levels are calculated from the published raw data and based on procedures outlined in Appendix E, ARI 885-98.

2. Discharge sound attenuation deductions are based on environmental effect, duct lining, branch power division, insulated flex duct, end reflection and space effect and are as follows:

| Discharge attenuation | Octave Band | | | | | | |
|-----------------------|-------------|----|----|----|----|----|--|
| | 2 | 3 | 4 | 5 | 6 | 7 | |
| < 300 cfm | 24 | 28 | 39 | 53 | 58 | 40 | |
| 300 – 700 cfm | 27 | 29 | 40 | 51 | 53 | 39 | |
| > 700 cfm | 29 | 30 | 41 | 51 | 52 | 39 | |

3. Radiated sound attenuation deductions are based on a mineral tile ceiling and environmental effect and are as follows:

| Radiated attenuation | Octave Band | | | | | | |
|----------------------|-------------|----|----|----|----|----|--|
| | 2 | 3 | 4 | 5 | 6 | 7 | |
| Total dB reduction | 18 | 19 | 20 | 26 | 31 | 36 | |

4. Minimum discharge Δ Ps is the static pressure loss through the unit with 100% airflow through discharge outlet.

5. Minimum bypass Δ Ps is the static pressure loss through the unit with 100% airflow through the bypass outlet.

6. Dash (–) in space denotes an NC level of less than 20.

BYPASS TERMINAL UNITS

Performance Data • Sound Power Levels

| Inlet Size | Airflow cfm /s | | Min. Discharge Δ Ps "w.g. Pa | Min. Bypass Δ Ps "w.g. Pa | Sound Power Octave Bands | | | | | | | | | | | | | | | | | | | |
|------------|-------------------|------|--|-------------------------------------|--------------------------|-----|----|----|----|----|----|---------------|----|----|----|-------------|----|----|----|----|----|----|----|----|
| | | | | | Discharge | | | | | | | Radiated | | | | | | | | | | | | |
| | | | | | | | | | | | | Bypass Closed | | | | Bypass Open | | | | | | | | |
| 2 | 3 | 4 | 5 | 6 | 7 | 2 | 3 | 4 | 5 | 6 | 7 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | | |
| 6 | 400 | 189 | 0.01 | 2 | 0.14 | 35 | 45 | 44 | 41 | 33 | 29 | 26 | 42 | 37 | 33 | 24 | 20 | 20 | 54 | 55 | 52 | 52 | 51 | 37 |
| | 300 | 142 | 0.01 | 2 | 0.08 | 20 | 43 | 38 | 34 | 25 | - | - | - | 34 | 25 | - | - | - | 47 | 48 | 45 | 47 | 37 | 26 |
| | 200 | 94 | 0.01 | 2 | 0.04 | 10 | - | 31 | 24 | - | - | - | - | - | - | - | - | - | - | 38 | 34 | 32 | - | - |
| | 100 | 47 | 0.01 | 2 | 0.01 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | 34 | 29 | - | - | - |
| 8 | 700 | 330 | 0.01 | 2 | 0.21 | 52 | 52 | 51 | 47 | 39 | 36 | 33 | 47 | 41 | 34 | 28 | 26 | 20 | 60 | 59 | 55 | 53 | 48 | 41 |
| | 500 | 236 | 0.01 | 2 | 0.11 | 27 | 45 | 43 | 38 | 29 | 24 | - | 43 | 34 | 27 | - | - | - | 52 | 50 | 46 | 43 | 3 | 28 |
| | 350 | 165 | 0.01 | 2 | 0.05 | 12 | - | 34 | 28 | - | - | - | - | 32 | - | - | - | - | 47 | 40 | 37 | 32 | 25 | - |
| | 200 | 94 | 0.01 | 2 | 0.02 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | 43 | 30 | - | - | - | - |
| 10 | 1100 | 519 | 0.01 | 2 | 0.43 | 107 | 50 | 50 | 46 | 43 | 37 | 34 | 52 | 49 | 46 | 37 | 32 | 23 | 65 | 64 | 62 | 60 | 56 | 52 |
| | 800 | 378 | 0.01 | 2 | 0.23 | 57 | 47 | 47 | 36 | 30 | 28 | 22 | 49 | 43 | 39 | 28 | 26 | - | 56 | 55 | 52 | 50 | 46 | 41 |
| | 500 | 236 | 0.01 | 2 | 0.09 | 22 | 44 | 40 | 34 | 28 | - | - | 43 | 35 | 29 | - | - | - | 47 | 45 | 43 | 41 | 34 | - |
| | 250 | 118 | 0.01 | 2 | 0.02 | 5 | 40 | 30 | - | - | - | - | - | - | - | - | - | - | 42 | 28 | - | - | - | - |
| 12 | 1600 | 755 | 0.01 | 2 | 0.50 | 124 | 49 | 47 | 45 | 43 | 44 | 40 | 48 | 51 | 47 | 37 | 35 | 29 | 69 | 69 | 66 | 63 | 60 | 56 |
| | 1200 | 566 | 0.01 | 2 | 0.28 | 70 | 44 | 40 | 38 | 36 | 36 | 29 | 43 | 41 | 38 | 29 | 25 | - | 61 | 60 | 58 | 56 | 52 | 46 |
| | 800 | 378 | 0.01 | 2 | 0.13 | 32 | 40 | 31 | 25 | - | - | - | 40 | 33 | 29 | - | - | - | 50 | 49 | 49 | 46 | 39 | 31 |
| | 400 | 189 | 0.01 | 2 | 0.03 | 7 | - | - | 26 | - | - | - | - | - | 25 | - | - | - | 44 | 40 | 41 | 35 | 28 | - |
| 14 | 2100 | 991 | 0.05 | 12 | 0.50 | 124 | 60 | 57 | 54 | 48 | 45 | 36 | 54 | 58 | 56 | 49 | 49 | 41 | 69 | 69 | 67 | 65 | 61 | 57 |
| | 1600 | 755 | 0.03 | 7 | 0.29 | 72 | 54 | 49 | 44 | 39 | 34 | 24 | 48 | 50 | 49 | 42 | 40 | 29 | 62 | 62 | 60 | 57 | 53 | 48 |
| | 1050 | 495 | 0.01 | 2 | 0.12 | 30 | 47 | 37 | 31 | 24 | - | - | 44 | 40 | 38 | 29 | - | - | 51 | 50 | 50 | 45 | 40 | 31 |
| | 550 | 260 | 0.01 | 2 | 0.03 | 7 | - | 31 | - | - | - | - | - | 31 | 26 | - | - | - | - | 37 | 36 | 29 | - | - |
| 16 | 2750 | 1298 | 0.06 | 15 | 0.50 | 124 | 66 | 64 | 61 | 56 | 52 | 46 | 64 | 63 | 59 | 49 | 46 | 37 | 73 | 73 | 71 | 69 | 65 | 61 |
| | 2050 | 967 | 0.03 | 7 | 0.28 | 70 | 58 | 56 | 51 | 46 | 42 | 34 | 57 | 54 | 50 | 41 | 36 | 25 | 65 | 65 | 63 | 61 | 56 | 50 |
| | 1375 | 649 | 0.01 | 2 | 0.13 | 32 | 50 | 45 | 39 | 33 | 27 | - | 45 | 41 | 38 | 27 | - | - | 54 | 53 | 53 | 50 | 44 | 34 |
| | 700 | 330 | 0.01 | 2 | 0.03 | 7 | 47 | 31 | - | - | - | - | - | - | - | - | - | - | 40 | 35 | 33 | 25 | - | - |

ARI Certification Rating Points

| Inlet Size | Airflow cfm /s | | Min. Inlet Δ Ps "w.g. Pa | | Sound Power Octave Bands | | | | | | | | | | | | | |
|------------|-------------------|------|------------------------------------|----|--------------------------|----|----|----|----|----|----|----------|----|----|----|----|--|--|
| | | | | | Discharge | | | | | | | Radiated | | | | | | |
| | | | | | 2 | 3 | 4 | 5 | 6 | 7 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 6 | 400 | 189 | 0.01 | 2 | 45 | 44 | 41 | 33 | 29 | 26 | 42 | 37 | 33 | 24 | 20 | 20 | | |
| 8 | 700 | 330 | 0.01 | 2 | 52 | 51 | 47 | 39 | 36 | 33 | 47 | 41 | 34 | 28 | 26 | 20 | | |
| 10 | 1100 | 519 | 0.01 | 2 | 50 | 50 | 46 | 43 | 37 | 34 | 52 | 49 | 46 | 37 | 32 | 23 | | |
| 12 | 1600 | 755 | 0.01 | 2 | 49 | 47 | 45 | 43 | 44 | 40 | 48 | 51 | 47 | 37 | 35 | 29 | | |
| 14 | 2100 | 991 | 0.05 | 12 | 60 | 57 | 54 | 48 | 45 | 36 | 54 | 58 | 56 | 49 | 49 | 41 | | |
| 16 | 2750 | 1298 | 0.06 | 15 | 66 | 64 | 61 | 56 | 52 | 46 | 64 | 63 | 59 | 49 | 46 | 37 | | |

Performance Notes:

1. Discharge sound power is the noise emitted from the unit discharge into the downstream duct.
2. Radiated sound power is the breakout noise transmitted through the unit casing walls.
3. Sound power levels are in decibels, dB re 10-12 watts.

4. All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 or equal to background.
5. Minimum discharge Δ Ps is the static pressure loss through the unit with 100% airflow through discharge outlet.

6. Minimum bypass Δ Ps is the static pressure loss through the unit with 100% airflow through the bypass outlet.

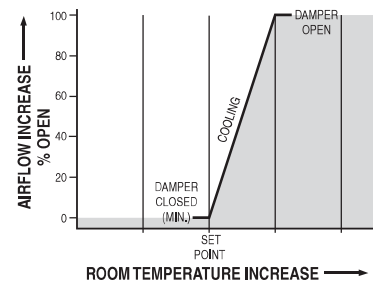
BYPASS TERMINAL UNITS

Standard Control Sequences Electronic • Pressure Dependent

Control Sequence

Cooling Only

Central system supplies cool air. On a rise in room temperature above set point, the bypass damper will slowly modulate open, increasing the flow of air to the room, closing the bypass at the same time. On a fall in room temperature below set point, the bypass damper will modulate closed, reducing the flow of cool air into the room and opening the bypass at the same time. A mechanical air volume minimum stop is provided (field set).



Splitter sound attenuators Type DFSA



For high insertion loss with broadband damping, even in the high-frequency range

Splitter sound attenuators with splitters, suitable for air conditioning systems

- Attenuation effect due to absorption
- Energy efficient due to aerodynamically profiled frame (radius > 15 mm)
- Acoustic data measured to ISO 7235
- Absorption material is biosoluble and hence hygienically safe
- Absorption material faced with glass fibre fabric as a protection against erosion due to airflow velocities up to 20 m/s
- Absorption material non-combustible, to EN 13501, fire rating class A1
- Intermediate sizes in increments of 1 mm
- For use in zones 1 and 2 as well as in zones 21 and 22 according to EU Directive 9/94/EC (ATEX)
- Operating temperature up to 100 °C

Optional equipment and accessories

- Additional perforated sheet metal to protect the absorption material
- Stainless steel, aluminium and PUR-coated constructions upon request

Splitter sound attenuators General information

| Type | Page |
|------------------------------------|------|
| General information | 2 |
| Function | 4 |
| Technical data | 5 |
| Quick sizing | 6 |
| Specification text | 9 |
| Order code | 10 |
| Variants | 11 |
| Dimensions and weight | 12 |
| Product details | 17 |
| Installation details | 19 |
| Basic information and nomenclature | 21 |

| Application | Application | 2400 ,2200 ,2000 ,1800 ,1600 ,1400 ,1200 |
|-------------|---|--|
| | <ul style="list-style-type: none"> – Splitter sound attenuators of Type DFS Used for the reduction of fan noise and air-regenerated noise in air conditioning systems – Attenuation effect due to absorption – Broadband attenuation even in the high frequency range | |

Special characteristics

- Increased insertion loss even in the high-frequency range
- Up to 30 % lower differential pressure
- Energy efficient and/or space saving due to aerodynamically profiled frame
- Multi-section construction available for large dimensions

| Description | Variants | |
|-------------|--|---|
| | <ul style="list-style-type: none"> – DFSA 100: splitter thickness of 100 mm – DFSA 200: splitter thickness of 200 mm – DFSA 230: splitter thickness of 230 mm – DFSA 300: splitter thickness of 300 mm | |
| | Construction Splitter surface <ul style="list-style-type: none"> – L: Glass fibre fabric and additional perforated sheet metal to protect the absorption material | <ul style="list-style-type: none"> – Aerodynamically profiled splitter frame (radius > 15 mm) that enables a reduction of turbulence both upstream and downstream; frame with grooves for increased rigidity – Frame edges are folded to protect the infill – Attenuators with width or height subdivided have an angle section frame – Operating temperature up to 100 °C |
| | Parts and characteristics <ul style="list-style-type: none"> – Casing – Aerodynamically profiled frame – Absorption material fitted to reduce noise | Materials and surfaces <ul style="list-style-type: none"> – Casing and splitter frames made of galvanised sheet steel – Standard flange and angle sections made of galvanised steel – Absorption material is Glass wool or Mineral wool – To EN 13501, fire rating class A1, non-combustible |
| | Construction features Casing with grooves for increased rigidity; | |

Splitter sound attenuators General information

Rules for Hazardous Substances) and
EU directive 69/97/EC

- Faced with glass fibre fabric as a protection against erosion through airflow velocities of up to 20 m/s
- Inert to fungal and bacterial growth

Standards and guidelines

- Insertion loss and sound power level of air-regenerated noise tested to ISO 7235

Maintenance

- Maintenance-free as construction and materials are not subject to wear

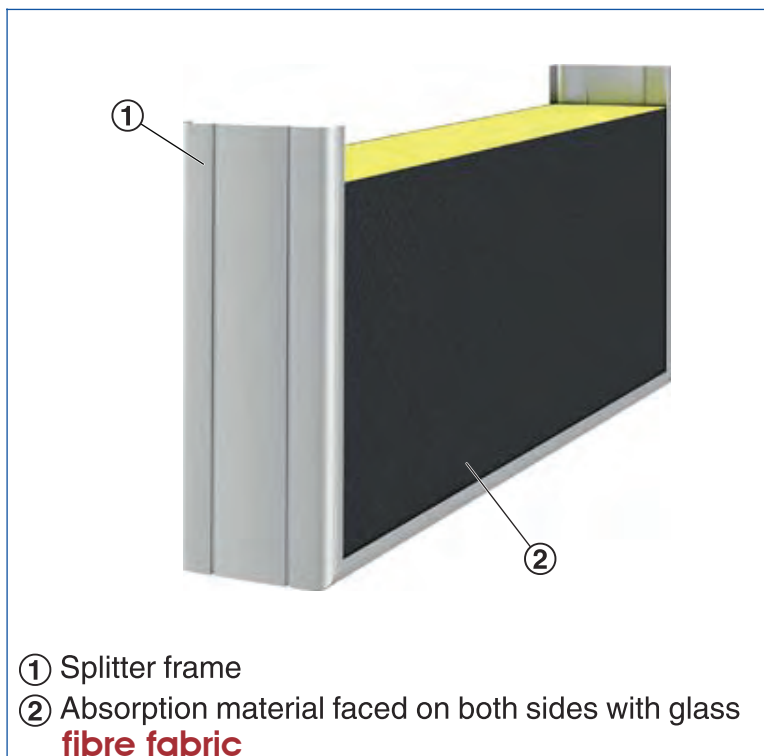
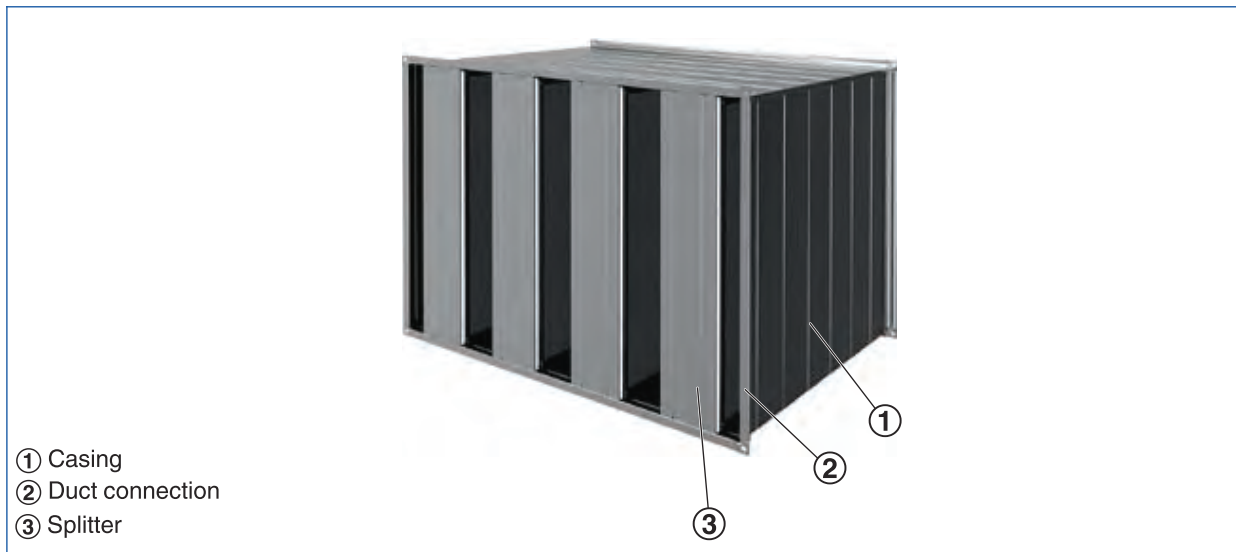
Splitter sound attenuators function

Functional description

Splitter sound attenuators of Type DFSA contain splitters of Type DFKA to absorption.

The attenuation effect of the SQSA splitters is due to absorption material.

Schematic illustration of DFSA, DFKA



Splitter sound attenuators Technical data

| | |
|-----------------------|---|
| Splitter thickness | 300 ,230 ,200 ,100 mm |
| Nominal sizes | SQSA 500 × 150 × 140 :100 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 250 :200 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 288 :230 mm – 1500 × 1800 × 2400 mm, SQSA500 × 150 × 375 :300 mm – 1500 × 1800 × 2400 mm |
| Width subdivided | 4800 – 2401 mm |
| Height subdivided | 3600 – 1801 mm |
| Length subdivided | 3000 – 1501 mm |
| Operating temperature | – 100 °C |

The length (L) of splitter attenuators refers to the airflow direction.

Splitter sound attenuators Quick sizing

Quick sizing tables provide a good overview of the insertion loss and of differential pressures for Intermediate values can be calculated with our Easy Product Finder design programme.

The sound power levels L_{WA} apply to sound attenuators with a cross-sectional area (B × H) of 1 m².

The differential pressures apply to sound attenuators with a height of 1 m.

DFSA, DFKA ait- regenerated noise

| | | | | | | | | | | |
|-----------------------|--------------|----|----|----|----|----|----|----|----|----|
| v_s | m/s | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| L_{WA} | dB(A) | 21 | 31 | 38 | 43 | 48 | 51 | 55 | 58 | 60 |

DFSA100, DFKA100 , insertion loss and differential pressure

| L | S | Centre frequency f _m [Hz] | | | | | | | | v _s [m/s] | | |
|------|----|--------------------------------------|-----|-----|-----|------|------|------|------|----------------------|-----|-----|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | 4 | 10 | 20 |
| mm | mm | D _e | | | | | | | | Δp _{st} | | |
| | | Hz | | | | | | | | Pa | | |
| 500 | 40 | 3 | 5 | 10 | 18 | 37 | 45 | 31 | 23 | 5 | 32 | >80 |
| | 60 | 4 | 8 | 19 | 29 | 46 | 50 | 39 | 32 | 7 | 44 | >80 |
| 1000 | 40 | 4 | 7 | 16 | 26 | 42 | 47 | 34 | 26 | 5 | 33 | >80 |
| | 60 | 6 | 11 | 27 | 39 | 50 | 50 | 47 | 40 | 9 | 55 | >80 |
| 1500 | 40 | 6 | 9 | 23 | 35 | 50 | 50 | 42 | 34 | 6 | 38 | >80 |
| | 60 | 5 | 5 | 14 | 27 | 44 | 46 | 31 | 20 | 5 | 29 | >80 |
| 2000 | 40 | 7 | 14 | 36 | 50 | 50 | 50 | 50 | 49 | 11 | 66 | >80 |
| | 60 | 7 | 12 | 30 | 45 | 50 | 50 | 50 | 41 | 7 | 44 | >80 |
| 2500 | 40 | 6 | 7 | 19 | 34 | 50 | 50 | 39 | 26 | 5 | 32 | >80 |
| | 60 | 3 | 4 | 11 | 24 | 38 | 24 | 14 | 10 | 4 | 25 | >80 |
| 3000 | 40 | 9 | 18 | 44 | 50 | 50 | 50 | 50 | 50 | 12 | 77 | >80 |
| | 60 | 8 | 14 | 37 | 50 | 50 | 50 | 50 | 49 | 8 | 50 | >80 |
| 3500 | 40 | 7 | 8 | 23 | 42 | 50 | 50 | 48 | 32 | 6 | 34 | >80 |
| | 60 | 4 | 5 | 13 | 29 | 46 | 30 | 17 | 12 | 4 | 26 | >80 |
| 4000 | 40 | 10 | 21 | 50 | 50 | 50 | 50 | 50 | 50 | 14 | >80 | >80 |
| | 60 | 10 | 17 | 44 | 50 | 50 | 50 | 50 | 50 | 9 | 56 | >80 |
| 4500 | 40 | 8 | 9 | 28 | 49 | 50 | 50 | 50 | 37 | 6 | 37 | >80 |
| | 60 | 5 | 6 | 16 | 34 | 50 | 35 | 20 | 13 | 4 | 27 | >80 |

Splitter sound attenuators Quick sizing

DFSA230, DFKA 230, insertion loss and differential pressure

| L | S | Centre frequency f_m [Hz] | | | | | | | | v_s [m/s] | | |
|------|-----|-----------------------------|-----|-----|-----|------|------|------|------|-----------------|-----|-----|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | 4 | 10 | 20 |
| mm | mm | D_e | | | | | | | | Δp_{st} | | |
| | | Hz | | | | | | | | Pa | | |
| 500 | 50 | 2 | 12 | 18 | 31 | 44 | 42 | 29 | 23 | 9 | 58 | >80 |
| 1000 | 50 | 6 | 14 | 22 | 44 | 50 | 50 | 36 | 27 | 11 | 67 | >80 |
| | 100 | 3 | 8 | 15 | 32 | 46 | 38 | 23 | 16 | 6 | 35 | >80 |
| | 200 | 2 | 5 | 11 | 22 | 25 | 18 | 11 | 7 | 3 | 21 | >80 |
| 1500 | 50 | 8 | 20 | 31 | 50 | 50 | 50 | 48 | 33 | 12 | 75 | >80 |
| | 100 | 5 | 12 | 22 | 47 | 50 | 50 | 31 | 20 | 6 | 40 | >80 |
| | 200 | 3 | 7 | 15 | 31 | 35 | 24 | 14 | 8 | 4 | 23 | >80 |
| | 400 | 2 | 4 | 11 | 18 | 15 | 9 | 6 | 5 | 2 | 15 | 61 |
| 2000 | 50 | 10 | 27 | 40 | 50 | 50 | 50 | 50 | 39 | 13 | >80 | >80 |
| | 100 | 6 | 16 | 28 | 50 | 50 | 50 | 39 | 24 | 7 | 44 | >80 |
| | 200 | 4 | 9 | 20 | 41 | 45 | 30 | 17 | 10 | 4 | 25 | >80 |
| | 400 | 2 | 5 | 14 | 24 | 19 | 11 | 7 | 6 | 3 | 17 | 67 |
| 2500 | 50 | 13 | 34 | 47 | 50 | 50 | 50 | 50 | 45 | 15 | >80 | >80 |
| | 100 | 7 | 21 | 34 | 50 | 50 | 50 | 45 | 27 | 8 | 48 | >80 |
| | 200 | 4 | 11 | 23 | 50 | 50 | 36 | 19 | 11 | 4 | 28 | >80 |
| | 400 | 3 | 7 | 16 | 29 | 21 | 13 | 8 | 6 | 3 | 18 | 72 |
| 3000 | 50 | 16 | 42 | 50 | 50 | 50 | 50 | 50 | 50 | 16 | >80 | >80 |
| | 100 | 8 | 26 | 39 | 50 | 50 | 50 | 50 | 31 | 8 | 53 | >80 |
| | 200 | 5 | 13 | 27 | 50 | 50 | 41 | 21 | 12 | 5 | 30 | >80 |
| | 400 | 3 | 8 | 18 | 34 | 24 | 14 | 9 | 7 | 3 | 19 | 77 |

DFSA230, DFKA230 , insertion loss and differential pressure

| L | S | Centre frequency f_m [Hz] | | | | | | | | v_s [m/s] | | |
|------|-----|-----------------------------|-----|-----|-----|------|------|------|------|-----------------|-----|-----|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | 4 | 10 | 20 |
| mm | mm | D_e | | | | | | | | Δp_{st} | | |
| | | Hz | | | | | | | | Pa | | |
| 500 | 60 | 4 | 7 | 12 | 25 | 34 | 25 | 19 | 18 | 9 | 57 | >80 |
| 1000 | 60 | 5 | 12 | 20 | 35 | 48 | 40 | 27 | 21 | 10 | 66 | >80 |
| | 115 | 4 | 8 | 16 | 27 | 35 | 27 | 18 | 15 | 6 | 35 | >80 |
| | 230 | 3 | 5 | 12 | 18 | 20 | 14 | 10 | 9 | 3 | 20 | >80 |
| 1500 | 60 | 6 | 16 | 27 | 46 | 50 | 50 | 35 | 25 | 12 | 74 | >80 |
| | 115 | 5 | 12 | 22 | 36 | 46 | 37 | 24 | 18 | 6 | 40 | >80 |
| | 230 | 3 | 7 | 16 | 25 | 28 | 19 | 12 | 11 | 4 | 23 | >80 |
| | 460 | 2 | 2 | 11 | 15 | 10 | 1 | 0 | 3 | 2 | 15 | 59 |
| 2000 | 60 | 7 | 21 | 35 | 50 | 50 | 50 | 43 | 29 | 13 | >80 | >80 |
| | 115 | 5 | 15 | 28 | 45 | 50 | 47 | 29 | 21 | 7 | 44 | >80 |
| | 230 | 4 | 9 | 21 | 32 | 36 | 24 | 14 | 13 | 4 | 25 | >80 |
| | 460 | 3 | 4 | 14 | 20 | 15 | 1 | 0 | 4 | 3 | 16 | 64 |
| 2500 | 60 | 8 | 25 | 43 | 50 | 50 | 50 | 50 | 33 | 15 | >80 | >80 |
| | 115 | 6 | 19 | 35 | 50 | 50 | 50 | 34 | 24 | 8 | 48 | >80 |
| | 230 | 5 | 12 | 26 | 40 | 43 | 28 | 17 | 14 | 4 | 27 | >80 |
| | 460 | 4 | 5 | 18 | 25 | 19 | 0 | 0 | 5 | 3 | 17 | 69 |
| 3000 | 60 | 9 | 30 | 50 | 50 | 50 | 50 | 50 | 37 | 16 | >80 | >80 |
| | 115 | 7 | 22 | 41 | 50 | 50 | 50 | 40 | 27 | 8 | 52 | >80 |
| | 230 | 6 | 14 | 31 | 47 | 50 | 33 | 19 | 16 | 5 | 29 | >80 |
| | 460 | 5 | 6 | 21 | 31 | 23 | 0 | 0 | 5 | 3 | 19 | 74 |

Splitter sound attenuators Quick sizing

DFSA300, DFKA300 , insertion loss and differential pressure

| L | S | Centre frequency f_m [Hz] | | | | | | | | v_s [m/s] | | |
|------|-----|-----------------------------|-----|-----|-----|------|------|------|------|-----------------|-----|-----|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | 4 | 10 | 20 |
| mm | mm | D _e | | | | | | | | Δp_{st} | | |
| | | Hz | | | | | | | | Pa | | |
| 500 | 75 | 4 | 7 | 17 | 25 | 34 | 32 | 22 | 18 | 10 | 63 | >80 |
| | 150 | 2 | 5 | 11 | 16 | 19 | 17 | 12 | 9 | 5 | 33 | >80 |
| 1000 | 75 | 6 | 15 | 24 | 42 | 48 | 50 | 33 | 26 | 11 | 71 | >80 |
| | 150 | 3 | 9 | 18 | 27 | 34 | 28 | 17 | 11 | 6 | 36 | >80 |
| | 300 | 1 | 6 | 11 | 15 | 16 | 13 | 8 | 7 | 3 | 21 | >80 |
| 1500 | 75 | 8 | 20 | 33 | 50 | 50 | 50 | 44 | 30 | 13 | 79 | >80 |
| | 150 | 3 | 14 | 26 | 38 | 46 | 39 | 21 | 13 | 6 | 39 | >80 |
| | 300 | 2 | 8 | 16 | 21 | 21 | 17 | 10 | 8 | 4 | 22 | >80 |
| | 600 | 1 | 6 | 11 | 12 | 9 | 6 | 4 | 5 | 2 | 15 | 60 |
| 2000 | 75 | 10 | 25 | 42 | 50 | 50 | 50 | 50 | 34 | 14 | >80 | >80 |
| | 150 | 4 | 18 | 33 | 48 | 50 | 50 | 26 | 16 | 7 | 42 | >80 |
| | 300 | 2 | 11 | 20 | 26 | 26 | 21 | 12 | 9 | 4 | 23 | >80 |
| | 600 | 1 | 7 | 14 | 16 | 11 | 7 | 5 | 5 | 2 | 15 | 60 |
| 2500 | 75 | 13 | 30 | 50 | 50 | 50 | 50 | 50 | 38 | 15 | >80 | >80 |
| | 150 | 5 | 23 | 40 | 50 | 50 | 50 | 30 | 18 | 7 | 45 | >80 |
| | 300 | 3 | 14 | 25 | 32 | 32 | 25 | 13 | 10 | 4 | 25 | >80 |
| | 600 | 1 | 9 | 17 | 19 | 13 | 7 | 5 | 6 | 3 | 16 | 64 |
| 3000 | 75 | 15 | 35 | 50 | 50 | 50 | 50 | 50 | 42 | 16 | >80 | >80 |
| | 150 | 6 | 28 | 48 | 50 | 50 | 50 | 35 | 20 | 8 | 48 | >80 |
| | 300 | 3 | 17 | 30 | 38 | 37 | 29 | 15 | 11 | 4 | 26 | >80 |
| | 600 | 2 | 11 | 21 | 23 | 14 | 8 | 5 | 6 | 3 | 17 | 68 |

Splitter sound attenuators Order code

The length (L) of sound attenuator splitters and splitter attenuators refers to the airflow direction. Remember this with regard to vertical ducting.

DFSA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DFSA 200 – 100 – 3 – P F / 900×600×1500 | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

1 Type

DFSA Splitter sound attenuator with casing

2 Splitter thickness [mm]

100
200
230
300

3 Airway width (distance between splitters) [mm]

4 Number of splitters

5 Duct connection

20 - Standard flange 20mm
30 - Standard flange 30mm
40 - Standard flange 40mm

6 Splitter surface

L Glass fibre fabric and perforated sheet metal

7 Nominal width B [mm]

8 Nominal height H [mm]

9 Nominal length in airflow direction L [mm]

Order example: SQSA 2-100-100-WL/1500×1500×400

| | |
|-------------------------------|---|
| Splitter thickness | 100 mm |
| Airway width | 100 mm |
| No. of splitters | 2 |
| Connecting subframe | Angle section frame |
| Splitter surface | Glass fibre fabric and perforated sheet metal |
| Width | 400 mm |
| Height | 1500 mm |
| Length (in airflow direction) | 1500 mm |

Splitter sound attenuators Variants

Splitter sound attenuator, variant DFSA100



Splitter thickness 100 mm

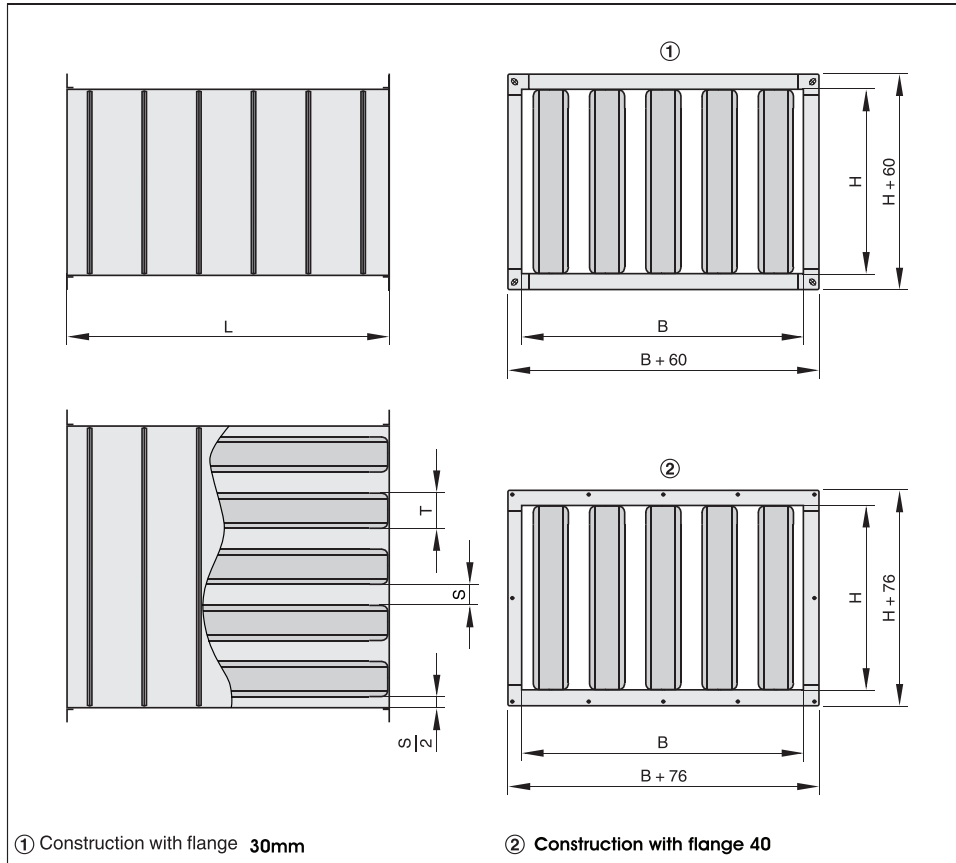
Splitter sound attenuator, variant DSFA200



Splitter thickness 200 mm

Splitter sound attenuators Dimensions and weight

DFSA



Sound attenuator casing, nominal length

| L | mm | 500 | 750 | 1000 | 1250 | 1500 |
|---|----|-----|-----|------|------|------|
|---|----|-----|-----|------|------|------|

Sound attenuator casing, nominal height

| H | mm | 300 | 600 | 900 | 1200 | 1500 | 1800 |
|---|----|-----|-----|-----|------|------|------|
|---|----|-----|-----|-----|------|------|------|

Sound attenuator casing, nominal width

| B | DSFA 100 | | | DSFA 200 | | | DSFA 230 | | | DSFA 300 | | |
|------|----------|------|--------|----------|------|--------|----------|-----|--------|----------|-----|---------|
| | T | n | S | T | n | S | T | n | S | T | n | S |
| | mm | - | mm | mm | - | mm | mm | - | mm | mm | - | mm |
| 200 | 100 | 1 | 100 | - | - | - | - | - | - | - | - | - |
| 400 | 100 | 2 | 100 | 200 | 1 | 200 | 230 | 1 | 85 | 300 | 1 | 100 |
| 600 | 100 | 2-4 | 50-200 | 200 | 2 | 100 | 230 | 2 | 70 | 300 | 1 | 300 |
| 800 | 100 | 3-5 | 60-167 | 200 | 2-3 | 67-200 | 230 | 2 | 170 | 300 | 1-2 | 100-250 |
| 1000 | 100 | 4-7 | 43-150 | 200 | 3-4 | 50-133 | 230 | 3 | 103 | 300 | 2 | 200 |
| 1200 | 100 | 4-8 | 50-200 | 200 | 3-5 | 40-200 | 230 | 3-4 | 70-170 | 300 | 2-3 | 100-300 |
| 1400 | 100 | 5-10 | 40-180 | 200 | 4-5 | 80-150 | 230 | 3-5 | 50-237 | 300 | 3-4 | 50-167 |
| 1600 | 100 | 6-11 | 46-200 | 200 | 4-7 | 57-200 | 230 | 4-5 | 90-170 | 300 | 3-4 | 100-233 |
| 1800 | 100 | 6-12 | 50-200 | 200 | 5-8 | 50-160 | 230 | 4-6 | 70-220 | 300 | 3-5 | 60-300 |
| 2000 | 100 | 7-14 | 43-186 | 200 | 5-8 | 50-200 | 230 | 5-7 | 56-170 | 300 | 4-5 | 100-200 |
| 2200 | 100 | 7-15 | 47-200 | 200 | 6-9 | 44-167 | 230 | 5-7 | 84-186 | 300 | 4-6 | 67-250 |
| 2400 | 100 | 8-16 | 50-200 | 200 | 6-10 | 40-200 | 230 | 6-8 | 70-170 | 300 | 4-7 | 43-300 |

Splitter sound attenuators Dimensions and weight

Sound attenuator casing with standard flange, L = 500, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 28 |
| 600 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 27 | 31 |
| 900 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 30 | 34 |
| 1200 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 33 | 37 |
| 1500 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 36 | 40 |
| 1800 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 39 | 43 |

Sound attenuator casing with standard flange, L = 750, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 8 | 10 | 13 | 16 | 19 | 22 | 25 | 27 | 33 | 38 |
| 600 | 13 | 15 | 18 | 21 | 24 | 26 | 29 | 31 | 36 | 42 |
| 900 | 17 | 19 | 22 | 25 | 28 | 30 | 33 | 35 | 40 | 46 |
| 1200 | 21 | 23 | 26 | 29 | 32 | 34 | 37 | 39 | 44 | 50 |
| 1500 | 25 | 27 | 30 | 33 | 36 | 38 | 41 | 43 | 48 | 54 |
| 1800 | 29 | 31 | 34 | 37 | 40 | 42 | 45 | 47 | 52 | 58 |

Sound attenuator casing with standard flange, L = 1000, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 10 | 14 | 17 | 20 | 24 | 27 | 30 | 34 | 41 | 48 |
| 600 | 15 | 19 | 22 | 25 | 29 | 32 | 35 | 39 | 46 | 53 |
| 900 | 20 | 24 | 27 | 30 | 34 | 37 | 40 | 44 | 51 | 58 |
| 1200 | 25 | 29 | 32 | 35 | 39 | 43 | 46 | 50 | 57 | 63 |
| 1500 | 30 | 34 | 37 | 40 | 44 | 48 | 51 | 55 | 62 | 68 |
| 1800 | 35 | 39 | 42 | 45 | 49 | 53 | 56 | 60 | 67 | 73 |

Sound attenuator casing with standard flange, L = 1250, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 13 | 17 | 21 | 25 | 29 | 33 | 37 | 41 | 49 | 58 |
| 600 | 19 | 23 | 27 | 31 | 35 | 39 | 43 | 47 | 54 | 64 |
| 900 | 25 | 29 | 33 | 37 | 41 | 45 | 49 | 53 | 60 | 70 |
| 1200 | 31 | 35 | 39 | 43 | 47 | 51 | 55 | 59 | 66 | 76 |
| 1500 | 37 | 41 | 45 | 49 | 53 | 58 | 62 | 65 | 72 | 82 |
| 1800 | 43 | 47 | 51 | 55 | 59 | 64 | 68 | 71 | 78 | 88 |

Sound attenuator casing with standard flange, L = 1500, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 15 | 19 | 24 | 29 | 33 | 39 | 44 | 48 | 58 | 68 |
| 600 | 22 | 26 | 31 | 36 | 40 | 46 | 51 | 55 | 65 | 75 |
| 900 | 30 | 34 | 39 | 44 | 48 | 53 | 58 | 62 | 72 | 82 |
| 1200 | 37 | 41 | 46 | 51 | 55 | 60 | 65 | 69 | 79 | 89 |
| 1500 | 44 | 48 | 53 | 58 | 62 | 68 | 73 | 77 | 87 | 97 |
| 1800 | 51 | 55 | 59 | 65 | 69 | 75 | 80 | 84 | 93 | 104 |

Splitter sound attenuators Dimensions and weight

Sound attenuator casing with angle section frame, L = 500, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 9 | 13 | 16 | 19 | 23 | 25 | 28 | 32 | 39 | 45 |
| 600 | 14 | 18 | 21 | 24 | 28 | 30 | 33 | 37 | 44 | 50 |
| 900 | 18 | 22 | 25 | 28 | 32 | 35 | 38 | 42 | 49 | 55 |
| 1200 | 23 | 27 | 30 | 33 | 37 | 40 | 43 | 47 | 54 | 59 |
| 1500 | 28 | 32 | 35 | 38 | 42 | 45 | 48 | 52 | 59 | 64 |
| 1800 | 33 | 37 | 40 | 43 | 47 | 50 | 53 | 57 | 64 | 69 |

Sound attenuator casing with angle section frame, L = 750, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 8 | 12 | 16 | 20 | 24 | 25 | 29 | 33 | 41 | 45 |
| 600 | 13 | 17 | 21 | 25 | 29 | 30 | 34 | 38 | 46 | 50 |
| 900 | 17 | 21 | 25 | 29 | 33 | 35 | 39 | 43 | 51 | 55 |
| 1200 | 22 | 26 | 30 | 34 | 38 | 40 | 44 | 48 | 56 | 59 |
| 1500 | 27 | 31 | 35 | 39 | 43 | 45 | 49 | 53 | 61 | 64 |
| 1800 | 32 | 36 | 40 | 44 | 48 | 50 | 54 | 58 | 66 | 69 |

Sound attenuator casing with angle section frame, L = 1000, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 14 | 18 | 23 | 28 | 32 | 37 | 42 | 46 | 56 | 65 |
| 600 | 21 | 25 | 30 | 35 | 39 | 44 | 49 | 53 | 63 | 72 |
| 900 | 28 | 32 | 37 | 42 | 46 | 51 | 56 | 60 | 70 | 79 |
| 1200 | 35 | 39 | 44 | 49 | 53 | 58 | 63 | 67 | 77 | 86 |
| 1500 | 42 | 46 | 51 | 56 | 60 | 65 | 70 | 74 | 84 | 93 |
| 1800 | 49 | 53 | 58 | 63 | 67 | 72 | 77 | 81 | 91 | 100 |

Sound attenuator casing with angle section frame, L = 1250, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 15 | 21 | 26 | 31 | 37 | 42 | 47 | 53 | 63 | 75 |
| 600 | 23 | 29 | 34 | 39 | 45 | 51 | 56 | 62 | 72 | 83 |
| 900 | 31 | 37 | 42 | 47 | 53 | 59 | 64 | 70 | 80 | 91 |
| 1200 | 40 | 46 | 51 | 56 | 62 | 67 | 73 | 79 | 89 | 99 |
| 1500 | 48 | 54 | 59 | 64 | 70 | 75 | 80 | 86 | 96 | 107 |
| 1800 | 56 | 62 | 67 | 72 | 78 | 83 | 88 | 94 | 104 | 115 |

Sound attenuator casing with angle section frame, L = 1500, weights

| H | B [mm] | | | | | | | | | |
|------|--------|-----|-----|-----|------|------|------|------|------|------|
| | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 | 2400 |
| mm | kg | | | | | | | | | |
| 300 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 72 | 85 |
| 600 | 27 | 33 | 39 | 45 | 51 | 57 | 63 | 69 | 81 | 94 |
| 900 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 78 | 90 | 103 |
| 1200 | 45 | 51 | 57 | 63 | 69 | 76 | 82 | 88 | 100 | 112 |
| 1500 | 54 | 60 | 66 | 72 | 78 | 85 | 91 | 97 | 109 | 122 |
| 1800 | 63 | 69 | 75 | 81 | 87 | 94 | 100 | 106 | 118 | 131 |

Splitter sound attenuators Dimensions and weight

DFKA 100, weights

| H | Glass fibre fabric (-F) | | | | | Glass fibre fabric and perforated sheet metal (-L) | | | | |
|------|-------------------------|-----|------|------|------|--|-----|------|------|------|
| | L [mm] | | | | | | | | | |
| | 500 | 750 | 1000 | 1250 | 1500 | 500 | 750 | 1000 | 1250 | 1500 |
| mm | kg | | | | | | | | | |
| 300 | 2 | 3 | 4 | 5 | 6 | 3 | 4 | 5 | 6 | 8 |
| 600 | 4 | 5 | 7 | 8 | 10 | 5 | 7 | 9 | 11 | 13 |
| 900 | 5 | 7 | 9 | 11 | 13 | 7 | 10 | 13 | 16 | 18 |
| 1200 | 7 | 10 | 12 | 15 | 17 | 9 | 13 | 16 | 20 | 24 |
| 1500 | 8 | 12 | 15 | 18 | 21 | 11 | 16 | 20 | 25 | 29 |
| 1800 | 10 | 14 | 19 | 23 | 27 | 14 | 19 | 25 | 31 | 36 |

DFKA 200, weights

| H | Glass fibre fabric (-F) | | | | | Glass fibre fabric and perforated sheet metal (-L) | | | | |
|------|-------------------------|-----|------|------|------|--|-----|------|------|------|
| | L [mm] | | | | | | | | | |
| | 500 | 750 | 1000 | 1250 | 1500 | 500 | 750 | 1000 | 1250 | 1500 |
| mm | kg | | | | | | | | | |
| 300 | 4 | 5 | 6 | 7.5 | 9 | 4 | 6 | 7 | 9 | 11 |
| 600 | 6 | 8 | 10 | 12 | 15 | 7 | 10 | 12 | 15 | 18 |
| 900 | 8 | 11 | 14 | 17 | 20 | 10 | 14 | 17 | 21 | 25 |
| 1200 | 10 | 14 | 18 | 22 | 26 | 13 | 18 | 22 | 27 | 32 |
| 1500 | 13 | 17 | 22 | 27 | 31 | 15 | 21 | 27 | 33 | 40 |
| 1800 | 16 | 22 | 28 | 34 | 40 | 19 | 27 | 34 | 42 | 50 |

DFKA 230, weights

| H | Glass fibre fabric (-F) | | | | | Glass fibre fabric and perforated sheet metal (-L) | | | | |
|------|-------------------------|-----|------|------|------|--|-----|------|------|------|
| | L [mm] | | | | | | | | | |
| | 500 | 750 | 1000 | 1250 | 1500 | 500 | 750 | 1000 | 1250 | 1500 |
| mm | kg | | | | | | | | | |
| 300 | 4 | 5 | 7 | 8 | 10 | 5 | 6 | 8 | 10 | 12 |
| 600 | 6 | 9 | 11 | 14 | 16 | 8 | 11 | 13 | 16 | 19 |
| 900 | 9 | 12 | 16 | 19 | 22 | 11 | 15 | 19 | 23 | 27 |
| 1200 | 11 | 16 | 20 | 24 | 28 | 14 | 19 | 24 | 30 | 35 |
| 1500 | 14 | 19 | 24 | 29 | 34 | 17 | 23 | 30 | 36 | 43 |
| 1800 | 18 | 24 | 31 | 37 | 44 | 21 | 29 | 37 | 45 | 54 |

ACCESS DOOR

STANDARD CONSTRUCTION

FRAME

22 GAUGE GALVANIZED STEEL PROVIDED WITH GASKET ALL AROUND BOTTOM EDGE WILL BE NOTCHED – KNOCK OVER FOR EASY FIXING UNTO THE DUCT SIZES OF 20 GAUGE FOR 450 X 450 AND BIGGER

DOOR

24 GAUGE GALVANISED STEEL FOR SIZES UP TO 14" X 14 " AND 22 GAUGE FOR LARGER SIZES . DOOR IS DOUBLE SKIN TYPE WITH 1" FIBER INSULATION .

LOCKS

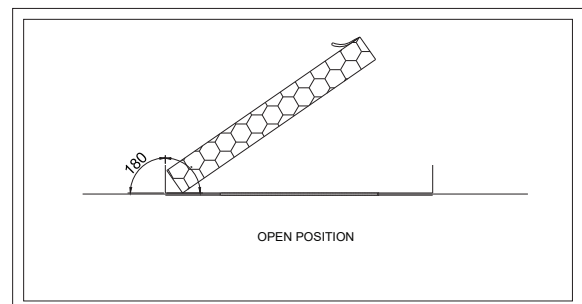
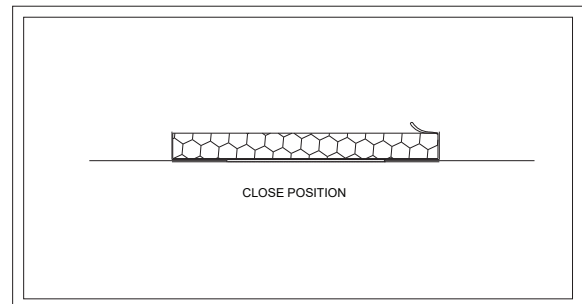
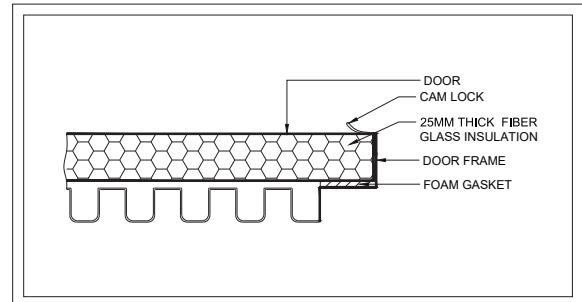
GALVANIZED CAM LOCKS

SIZES

MINIMUM SIZES : 6" WIDTH X 6" HEIGHT

OPTIONS

- DOOR CAN BE SUPPLIED WITHOUT INSULATION OR WITH 1" or 2 " INSULATION
- DOOR CONSTRUCTION : AVAILABLE WITH 22 GAUGE GALVANIZED FOR ALL SIZED
- DOOR & FRAME CAN BE SUPPLIED WITH STAINLESS STEEL CONSTRUCTION

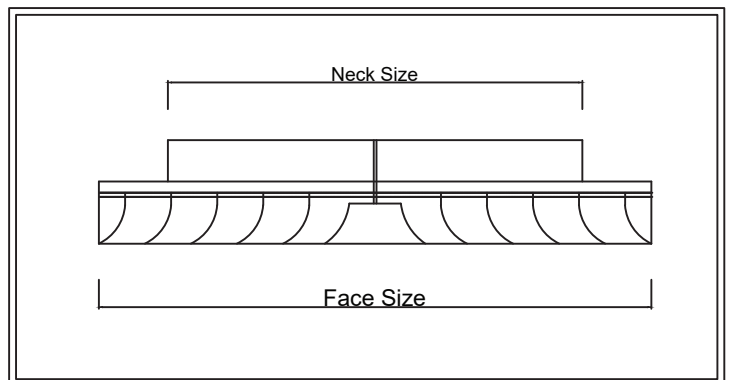


ROUND DIFFUSER



Features:

- Suitable for heating, cooling and exhaust applications
- Constructed from forged aluminum providing long term strength and rigidity
- Complete with the twin spring clip arrangement found on the round ceiling diffusers
- Finished standard white
- Easily adjustable butterfly damper which can be adjusted from the face of the grille using a simple push-in dial



| Nominal Neck Metric (X) | Face Size (A) |
|---------------------------|-----------------|
| 150 mm | 205 mm |
| 200 mm | 260 mm |
| 250 mm | 305 mm |

* Grilles are powder coated white as standard

* The first number is for horizontal dimension and the second number is for vertical dimension

JET DIFFUSER

Quick Selection Table

Data is based on isothermal conditions with a room height of 2.7m with the diffuser mounted flush in an unobstructed ceiling. Throws are given at a terminal velocity of 0.25m/s. Data is tabulated with centre cone in two-test positions 20% and 100% open respectively. Noise Ratings are based on a room absorption level of 10dB.

| Neck Size (mm) | 150 | | | | | | | 200 | | | | | | | |
|-----------------|----------|----------------|-----|---------------|-----|----------------|-----|---------------|-----|----------------|-----|---------------|-----|----------------|-----|
| | 20% Open | | | 100% Open | | | | 20% Open | | | | 100% Open | | | |
| Percentage Open | | | | | | | | | | | | | | | |
| Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR |
| 16.5 | 1.0 | 9 | <15 | 16.5 | 0.5 | 2 | <15 | 27.5 | 1.3 | 6 | <15 | 27.5 | 0.7 | 1 | <15 |
| 33 | 1.3 | 38 | 16 | 33 | 1.0 | 8 | 16 | 55 | 1.6 | 25 | <15 | 55 | 1.2 | 5 | <15 |
| 49.5 | 1.7 | 85 | 17 | 49.5 | 1.3 | 18 | 18 | 82.5 | 2.0 | 56 | 21 | 82.5 | 1.6 | 12 | <15 |
| 66 | 2.0 | 151 | 20 | 66 | 1.6 | 31 | 21 | 110 | 2.3 | 100 | 33 | 110 | 2.0 | 21 | 15 |
| 82.5 | 2.4 | 237 | 24 | 82.5 | 2.0 | 49 | 25 | 137.5 | 2.6 | 156 | 41 | 137.5 | 2.3 | 32 | 19 |
| 99 | 2.8 | 241 | 29 | 99 | 2.4 | 70 | 30 | 165 | 3.0 | 224 | 55 | 165 | 2.6 | 46 | 26 |

| Neck Size (mm) | 250 | | | | | | | 300 | | | | | | | |
|-----------------|----------|----------------|-----|---------------|-----|----------------|-----|---------------|-----|----------------|-----|---------------|-----|----------------|-----|
| | 20% Open | | | 100% Open | | | | 20% Open | | | | 100% Open | | | |
| Percentage Open | | | | | | | | | | | | | | | |
| Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR | Airflow (l/s) | X | P _t | NR |
| 44 | 1.5 | 5 | <15 | 44 | 0.8 | 1 | <15 | 66 | 1.6 | 5 | <15 | 66 | 0.7 | 1 | <15 |
| 88 | 2.0 | 21 | <15 | 88 | 1.5 | 4 | <15 | 132 | 2.2 | 19 | <15 | 132 | 1.6 | 4 | <15 |
| 132 | 2.4 | 47 | 19 | 132 | 1.9 | 10 | <15 | 198 | 2.8 | 43 | 16 | 198 | 2.3 | 9 | <15 |
| 176 | 2.9 | 84 | 31 | 176 | 2.4 | 17 | <15 | 264 | 3.3 | 76 | 26 | 264 | 2.7 | 16 | <15 |
| 220 | 3.4 | 131 | 37 | 220 | 2.8 | 27 | 16 | 330 | 3.8 | 119 | 33 | 330 | 3.2 | 24 | 15 |
| 264 | 3.9 | 188 | 43 | 264 | 3.2 | 39 | 22 | 396 | 4.3 | 171 | 39 | 396 | 3.6 | 35 | 20 |

Symbols:

X - Throw in metres correspond to a terminal velocity in occupied zone of 0.25m/s

Pressure (P_t) - All pressures are in Pa (N/m²)

NR - Noise level index in db based on a room absorption and one diffuser

JET NOZZLE DIFFUSER



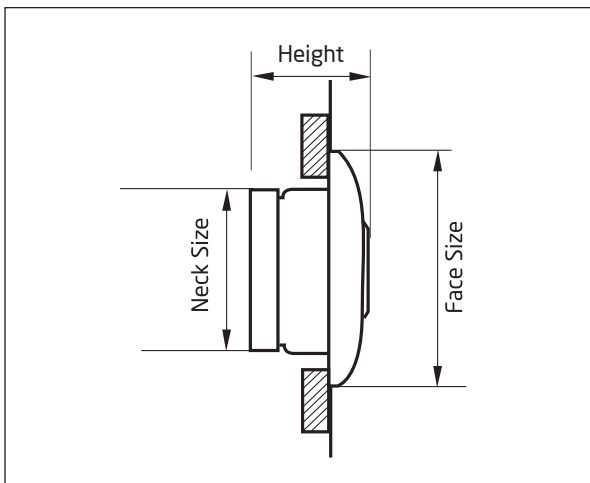
General Information:

Interior architecture are increasingly designing larger spaces for hotels, shopping malls, salons, convention centres, airport vestibules, passenger stations, social halls, etc.

In addition to effective air blowing at a long distance through nozzles (originally designed for industrial facilities), the use of these terminal units in more comfortable surroundings requires utmost attention to aesthetic design.

Features:

- From molded and spun aluminium sheeting ensuring functional strength
- Performance gives an attractive and aesthetically pleasing appearance
- Incorporating the barrel with fixing collar, swivelling nozzle and trim ring
- Powder coated white as standard



| Nominal Neck Metric (X) | Face Size (A) | Height |
|---------------------------|-----------------|--------|
| 125 mm | 172 mm | 96 mm |
| 200 mm | 265 mm | 142 mm |
| 250 mm | 314 mm | 179 mm |
| 350 mm | 433 mm | 251 mm |
| 400 mm | 495 mm | 285 mm |

* Grilles are powder coated white as standard

* The first number is for horizontal dimension and the second number is for vertical dimension

JET NOZZLE DIFFUSER

Quick Selection Table

| Flow rate | | No. of slots A_k | 125 | | | 200 | | | 250 | | | 300 | | | 350 | | | 400 | | | |
|---------------------|-------|-----------------------|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|--|
| (m ³ /h) | (l/s) | | 0.0025 | | | 0.0060 | | | 0.0087 | | | 0.0390 | | | 0.0422 | | | 0.1084 | | | |
| | | | $X_{0.3}$ | $X_{0.5}$ | X_1 | $X_{0.3}$ | $X_{0.5}$ | X_1 | $X_{0.3}$ | $X_{0.5}$ | X_1 | $X_{0.3}$ | $X_{0.5}$ | X_1 | $X_{0.3}$ | $X_{0.5}$ | X_1 | $X_{0.3}$ | $X_{0.5}$ | X_1 | |
| 75 | 20.8 | - | | | | | | | | | | | | | | | | | | | |
| | | X | 11.4 | 6.9 | 3.4 | | | | | | | | | | | | | | | | |
| | | V_k | 8.3 | 8.3 | 8.3 | | | | | | | | | | | | | | | | |
| | | P_t | 37 | 37 | 37 | | | | | | | | | | | | | | | | |
| | | NR | <15 | <15 | <15 | | | | | | | | | | | | | | | | |
| 125 | 34.7 | X | 19.1 | 11.4 | 5.7 | 11.5 | 6.9 | 3.4 | | | | | | | | | | | | | |
| | | V_k | 13.9 | 13.9 | 13.9 | 5.8 | 5.8 | 5.8 | | | | | | | | | | | | | |
| | | P_t | 103 | 103 | 103 | 17 | 17 | 17 | | | | | | | | | | | | | |
| | | NR | 28 | 28 | 28 | <15 | <15 | <15 | | | | | | | | | | | | | |
| 175 | 48.6 | X | 26.7 | 16.0 | 8.0 | 16.1 | 9.6 | 4.8 | 8.3 | 5.2 | 2.4 | | | | | | | | | | |
| | | V_k | 19.4 | 19.4 | 19.4 | 8.1 | 8.1 | 8.1 | 3.4 | 3.4 | 3.4 | | | | | | | | | | |
| | | P_t | 202 | 202 | 202 | 34 | 34 | 34 | 7 | 7 | 7 | | | | | | | | | | |
| | | NR | 39 | 39 | 39 | 15 | 15 | 15 | <15 | <15 | <15 | | | | | | | | | | |
| 250 | 69.4 | X | >30 | 22.9 | 11.4 | 22.9 | 13.8 | 6.9 | 20 | 9.2 | 4.8 | 12.9 | 7.8 | 3.9 | | | | | | | |
| | | V_k | 27.7 | 27.7 | 27.7 | 11.5 | 11.5 | 11.5 | 7.6 | 7.6 | 7.6 | 3.8 | 3.8 | 3.8 | | | | | | | |
| | | P_t | 411 | 411 | 411 | 69 | 69 | 69 | 30 | 30 | 30 | 7 | 7 | 7 | | | | | | | |
| | | NR | 49 | 49 | 49 | 26 | 26 | 26 | 18 | 18 | 18 | <15 | <15 | <15 | | | | | | | |
| 350 | 97.2 | X | | | | >30 | 19.3 | 9.6 | 23.2 | 12.2 | 6.3 | 18.1 | 10.9 | 5.4 | 16.3 | 8.2 | 4.0 | | | | |
| | | V_k | | | | 16.1 | 16.1 | 16.1 | 12.1 | 12.1 | 12.1 | 5.3 | 5.3 | 5.3 | 2.6 | 2.6 | 2.6 | | | | |
| | | P_t | | | | 134 | 134 | 134 | 52 | 52 | 52 | 14 | 14 | 14 | 6.0 | 6.0 | 6.0 | | | | |
| | | NR | | | | 36 | 36 | 36 | 26 | 26 | 26 | <15 | <15 | <15 | <15 | <15 | <15 | | | | |
| 500 | 138.9 | X | | | | >32 | 27.5 | 13.8 | >30 | 23.5 | 10.2 | 25.9 | 15.5 | 7.8 | 23.2 | 12.3 | 6.4 | 17.3 | 10.4 | 5.2 | |
| | | V_k | | | | 23 | 23 | 23 | 13.6 | 13.6 | 13.6 | 7.5 | 7.5 | 7.5 | 5 | 5 | 5 | 3.6 | 3.6 | 3.6 | |
| | | P_t | | | | 274 | 274 | 274 | 120 | 120 | 120 | 28 | 28 | 28 | 12 | 12 | 12 | 6 | 6 | 6 | |
| | | NR | | | | 47 | 47 | 47 | 23 | 23 | 23 | 17 | 17 | 17 | <15 | <15 | <15 | <15 | <15 | <15 | |
| 700 | 194.4 | X | | | | | | | >30 | 24.6 | 12.3 | >30 | 21.7 | 10.9 | >30 | 16.3 | 8.5 | 24.3 | 14.6 | 7.3 | |
| | | V_k | | | | | | | 15.3 | 15.3 | 15.3 | 10.6 | 10.6 | 10.6 | 8.2 | 8.2 | 8.2 | 5 | 5 | 5 | |
| | | P_t | | | | | | | 123 | 123 | 123 | 55 | 55 | 55 | 27 | 27 | 27 | 13 | 13 | 13 | |
| | | NR | | | | | | | 41 | 41 | 41 | 27 | 27 | 27 | 18 | 18 | 18 | <15 | <15 | <15 | |
| 1000 | 277.8 | X | | | | | | | | | | >30 | >30 | 15.5 | 30 | >26.2 | 13.2 | >30 | 20.8 | 10.4 | |
| | | V_k | | | | | | | | | | 15.1 | 15.1 | 15.1 | 12.1 | 12.1 | 12.1 | 7.1 | 7.1 | 7.1 | |
| | | P_t | | | | | | | | | | 113 | 113 | 113 | 56 | 56 | 56 | 26 | 26 | 26 | |
| | | NR | | | | | | | | | | 38 | 38 | 38 | 27 | 27 | 27 | 23 | 23 | 23 | |
| 1400 | 388.9 | X | | | | | | | | | | >30 | >30 | 21.7 | >30 | >30 | 17.6 | >30 | 29.1 | 14.6 | |
| | | V_k | | | | | | | | | | 21.1 | 21.1 | 21.1 | 15.2 | 15.2 | 15.2 | 10 | 10 | 10 | |
| | | P_t | | | | | | | | | | 222 | 222 | 222 | 121 | 121 | 121 | 51 | 51 | 51 | |
| | | NR | | | | | | | | | | 48 | 48 | 48 | 38 | 38 | 38 | 33 | 33 | 33 | |
| 1900 | 527.8 | X | | | | | | | | | | | | | >30 | >30 | 27 | >30 | >30 | 19.8 | |
| | | V_k | | | | | | | | | | | | | 20.1 | 20.1 | 20.1 | 13.5 | 13.5 | 13.5 | |
| | | P_t | | | | | | | | | | | | | 162 | 162 | 162 | 93 | 93 | 93 | |
| | | NR | | | | | | | | | | | | | 52 | 52 | 52 | 42 | 42 | 42 | |
| 2500 | 694.4 | X | | | | | | | | | | | | | | | | >30 | >30 | 26 | |
| | | V_k | | | | | | | | | | | | | | | | 17.8 | 17.8 | 17.8 | |
| | | P_t | | | | | | | | | | | | | | | | 161 | 161 | 161 | |
| | | NR | | | | | | | | | | | | | | | | 50 | 50 | 50 | |

Symbols:

A_k - Effective area

V_k - Effective velocity in m/s

X - Throw in metres correspond to a terminal velocity in occupied zone of 0.25m/s

Pressure (P_t) - All pressures are in Pa (N/m²)

NR - Noise level index in dB based on a room absorption and one diffuser

DISC VALVES**For extract air**

Circular disc valves with manually adjustable annular gap

- Nominal sizes 200 ,160 ,125 ,100 mm
- Volume flow rate range 10 – 50 l/s or 36 – 180 m³/h
- Diffuser face made of formed aluminum sheet, powder-coated
- For variable and constant volume Flows
- For ceiling and wall installation
- Easy to install
- Volume Flow rate balancing by simply turning the valve disc
- Inexpensive solution for small rooms

DISC VALVES GENERAL INFORMATION

Application

Application

- TypeDFDV disc valves are used as extract air devices in small rooms
- For variable and constant volume flows
- For walls and suspended ceilings

Special characteristics

- Continuous volume flow rate balancing by turning the valve disc
- Easy to install

Nominal sizes

- 200 ,160 ,125 ,100

Description

Parts and characteristics

- Valve disc with threaded spindle and lock nut
- Valve casing including cross bar with orifice for the threaded spindle
- Installation subframe that accommodates the disc valve

Materials and surfaces

- Valve casing and valve disc made of
- Aluminum sheet, cross bar, threaded spindle and lock nut made of galvanised steel
- Foam seal

- Valve casing and valve disc powder-coated RAL 9010, pure white

Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN/ISO 5135

Maintenance

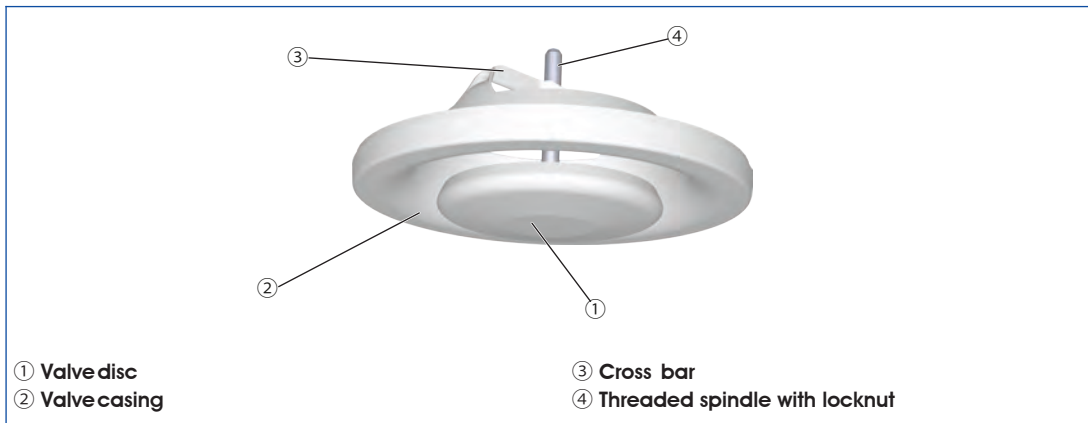
- Maintenance-free as construction and materials are not subject to wear
- Inspection and cleaning to VDI 6022

DISC VALVES FUNCTION

Functional description

Type LVS disc valves have a valve disc that can be turned. Extract air valves extract air from rooms and lead it into the extract air part of the air conditioning balancing system.

Schematic illustration



DISC VALVES TECHNICAL DATA

| | |
|--------------------------|---|
| Nominal sizes | 200, 160, 125, 100mm |
| Minimum volume flow rate | 25 – 10l/s or 90 – 36m ³ /h |
| Maximum volume flow rate | 50 – 25l/s or 180 – 90m ³ /h |

DISC VALVES QUICK SIZING

Quick sizing tables provide a good overview of the volume flow rates and corresponding sound power levels and differential pressures.

DFDV/100, DFDV/125, sound power level and total differential pressure

| Nominal size | l/s | m ³ /h | Gap width | | | | | |
|--------------|-----|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
| | | | 5 mm | | 0 mm | | -5 mm | |
| | | | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) |
| 100 | 10 | 36 | 8 | <15 | 14 | <15 | 30 | 16 |
| | 15 | 54 | 19 | <15 | 32 | 19 | 67 | 26 |
| | 20 | 72 | 33 | 22 | 56 | 27 | 119 | 33 |
| | 25 | 90 | 52 | 28 | 88 | 32 | 186 | 39 |
| 125 | 15 | 54 | 9 | <15 | 13 | <15 | 22 | <15 |
| | 20 | 72 | 15 | <15 | 23 | <15 | 40 | 19 |
| | 25 | 90 | 24 | <15 | 36 | 18 | 62 | 24 |
| | 30 | 108 | 35 | 18 | 52 | 23 | 90 | 29 |

DFDV/160, sound power level and total differential pressure

| Nominal size | l/s | m ³ /h | Gap width | | | | | |
|--------------|-----|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
| | | | 5 mm | | -5 mm | | -10 mm | |
| | | | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) |
| 160 | 20 | 100 | 9 | <15 | 24 | <15 | 43 | 17 |
| | 25 | 90 | 14 | <15 | 38 | 18 | 67 | 24 |
| | 30 | 108 | 20 | <15 | 55 | 23 | 96 | 29 |
| | 35 | 126 | 27 | 16 | 75 | 27 | 131 | 34 |

DFDV/200, sound power level and total differential pressure

| Nominal size | l/s | m ³ /h | Gap width | | | | | |
|--------------|-----|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
| | | | 5 mm | | -5 mm | | -15 mm | |
| | | | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) | Δp_t Pa | L_{WA} dB(A) |
| 200 | 25 | 90 | 4 | <15 | 9 | <15 | 21 | <15 |
| | 35 | 126 | 9 | <15 | 17 | <15 | 41 | 20 |
| | 45 | 162 | 14 | <15 | 28 | 16 | 68 | 27 |
| | 50 | 180 | 18 | <15 | 34 | 19 | 84 | 30 |

Sizing example

Given data

$V = 25 \text{ l/s} (90 \text{ m}^3/\text{h})$

Extract air valve

Maximum sound power level 30 dB(A)

Quick sizing

Type DFDV

Selectable nominal sizes: 200, 160, 125

Selected: DFDV/125

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Circular disc valves as extract air devices, preferably for small rooms. For installation in to walls and suspended ceilings.

Ready-to-install component which consists of a valve casing with cross bar, a valve disc with threaded spindle, and an installation subframe. The valve disc can be turned for volume flow rate balancing. The valve setting can be fixed with a lock nut. Spigot suitable for ducts to EN 1506 or EN 13180. Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Special characteristics

- Continuous volume flow rate balancing by turning the valve disc
- Easy to install

Materials and surfaces

Circular disc valves as extract air devices,

- Valve casing and valve disc made of galvanised sheet steel
- Installation subframe, cross bar, threaded spindle and lock nut made of galvanised steel
- Foam seal
- Valve casing and valve disc powder-coated RAL 9010, pure white

Technical data

- Nominal sizes: 200, 160, 125, 100 mm
- Minimum volume flow rate: 10–25 l/s or 36–90 m³/h
- Maximum volume flow rate: 25 to 50 l/s or 90 to 180 m³/h

Sizing data

- V _____
[m³/h]

DFDV

| | |
|--|-----------|
| | DFDV/ 160 |
| | |
| | 1 2 |

- Type

DFDV Extract air valve

- Nominal SIZE (mm)

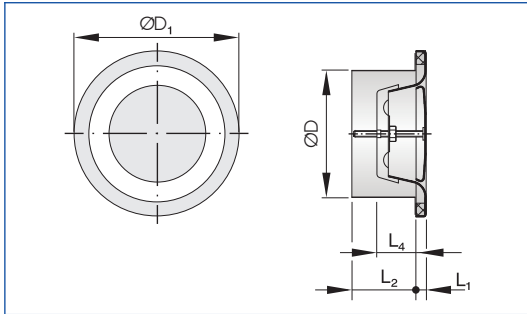
100
125
160
200

Order example: LVS/160

Nominal size 160

DISC VALVES DIMENSIONS AND WEIGHT

DFDV



DFDV

| Nominal size | $\varnothing D_1$ | L_1 | L_2 | L_4 | $\varnothing D$ | $\varnothing D_2$ | $\varnothing D_3$ | m |
|--------------|-------------------|-------|-------|-------|-----------------|-------------------|-------------------|------|
| | mm | mm | mm | mm | mm | mm | mm | kg |
| 100 | 132 | 8 | 50 | 32 | 99 | 122 | 114 | 0.20 |
| 125 | 162 | 9 | 50 | 38 | 124 | 148 | 140 | 0.29 |
| 160 | 192 | 10 | 50 | 43 | 159 | 184 | 176 | 0.44 |
| 200 | 245 | 11 | 50 | 52 | 199 | 225 | 217 | 0.59 |

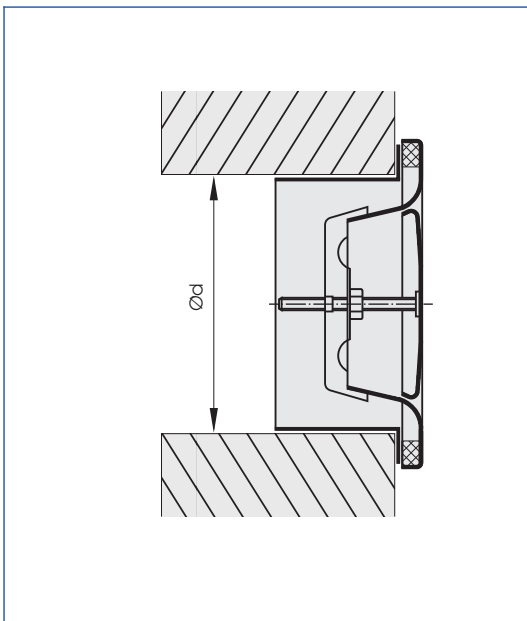
DISC VALVES INSTALLATION DETAILS

Installation and commissioning

- Installation flush with the wall or ceiling
- Perform volume flow rate balancing by turning the valve disc, then tighten the lock nut to fix the valve disc in the required position

These are only schematic diagrams to illustrate installation details.

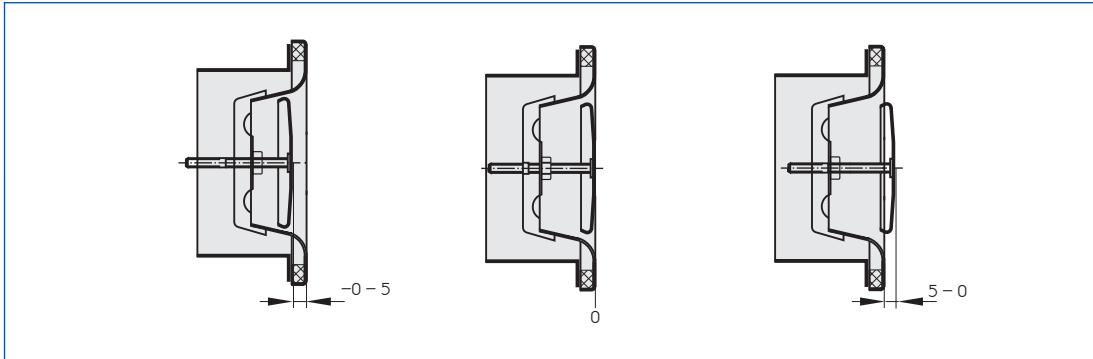
Installation flush with the wall or ceiling, with installation subframe



Installation opening

| Nominal size | Ød | |
|--------------|----|-----|
| | mm | |
| 100 | | 104 |
| 125 | | 129 |
| 160 | | 164 |
| 200 | | 204 |

Adjustment range



DISC VALVES BASIC INFORMATION AND NOMENCLATURE

Principal dimensions

$\varnothing D$ [mm]
Outer diameter of the spigot

$\varnothing D_1$ [mm]
Outer diameter of the diffuser face

L_1 [mm]

Length of the face cover ring

L_2 [mm]
Installed length

m [kg]
Weight

Nomenclature

LWA [dB(A)]
A-weighted sound power level of
air-regenerated noise

- [m³/h] and [l/s]
Volume flow rate

Δt_z [K]
Supply air to room air temperature difference

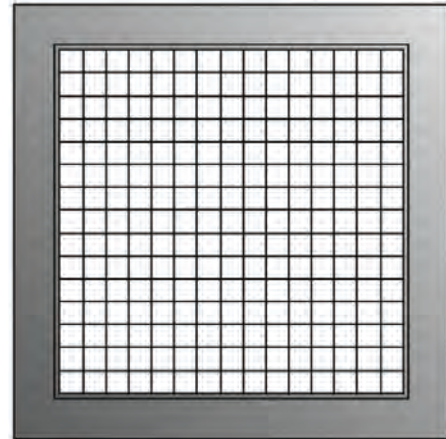
Δp_t [Pa]
Total differential pressure

All sound power levels are based on p_W .

EGG CRATE GRILLES

CONSTRUCTION:

- Frame: High quality extruded aluminium profiles with 30 mm flange width as standard. 24, 16, 12 mm flange widths are optional.
- Egg crate core: 12.5 mm x 12.5 mm x 12.5 mm aluminium grid.



Description:

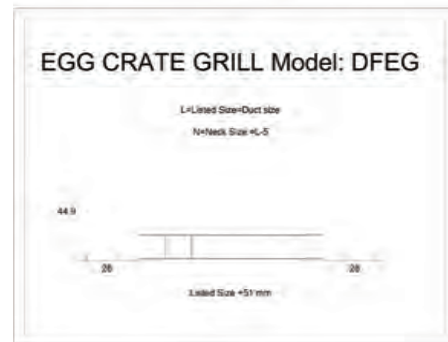
- Frame is constructed from high quality extruded aluminium profiles with the advantages of corrosion resistance and rigidity.

- Aluminium egg crate core of 12.5 mm x 12.5 mm x 12.5 mm size is fixed rigidly to the frame.

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

- Rigid construction provides noiseless performance.

- Designed for return and exhaust applications for conditioned space.



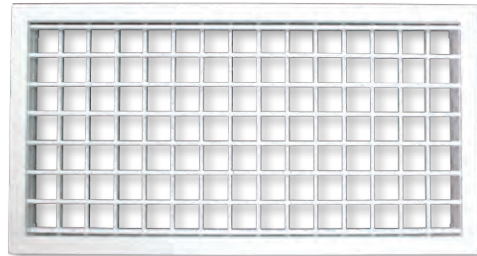
Standard finishes:

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

EGG CRATE REGISTER

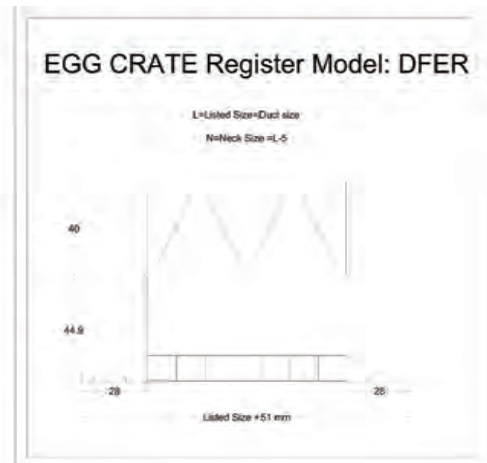
CONSTRUCTION:

- Frame: High quality extruded aluminium profiles with 30 mm flange width as standard., 12 24 , 16 mm flange widths are optional.
- Egg crate core: 12.5 mm x 12.5 mm x 12.5 mm aluminium grid.
- Damper frame and blades: Aluminium profiles with natural aluminium finish. Black matt finish as option.



Description:

- Frame is constructed from high quality extruded aluminium profiles with the advantages of corrosion resistance and rigidity.
- Aluminium egg crate core of 12.5 mm x 12.5 mm x 12.5 mm size is fixed rigidly to the frame.
- Grilles fixed with opposed blade damper for controlling exhaust air flow.
- Damper blades are fixed to the frame by nylon bushes.
- Damper blades can be screw operated from the face opening.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Rigid construction provides noiseless performance.
- Designed for return and exhaust applications for conditioned space.



Standard finishes:

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

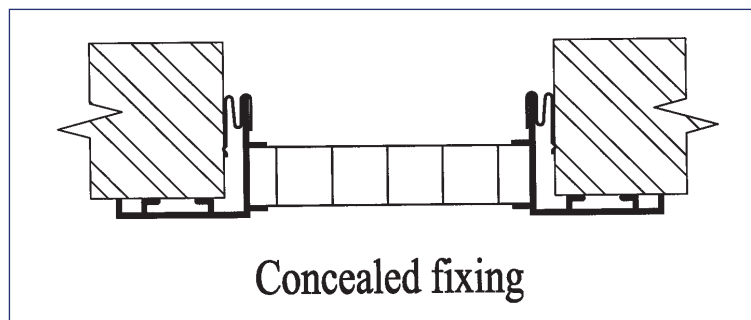
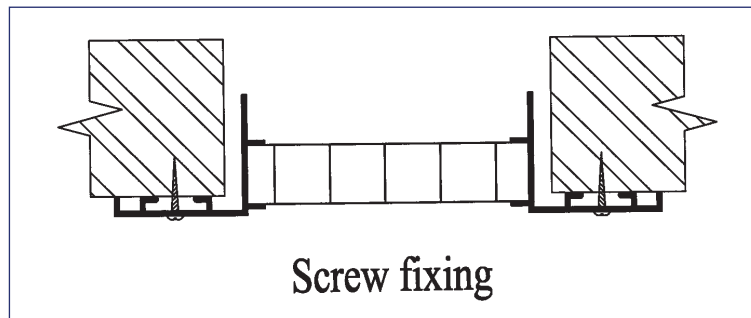
EGG CRATE REGISTER

Standard Sizes:

- Available in square and rectangular sizes.
- Non standard sizes are available as option.

| | | | | | | | |
|--------------|-----|-----|-----|-----|-----|-----|-----|
| Width in mm | 150 | 225 | 300 | 375 | 450 | 525 | 600 |
| Height in mm | 150 | 225 | 300 | 375 | 450 | 525 | 600 |

Fixing details:



How to order:

| Model | Size | Quantity | Finish |
|-------|--|--------------------|--------------------------------|
| AEG | Specify opening size in Width x height mm x mm | Specify in numbers | A = Aluminium anodized finish. |
| AER | | | B = RAL 9010 |
| | | | C = Other RAL colours |

Ordering example:

1. To select egg crate register of size 450 x 450 mm of quantity 75 nos with aluminium anodized finish.

Order as : AER450- x 75 - 450 - A.

EGG CRATE REGISTER

Table 4.1 Air flow data

| Core velocity in m/sec. | 1.25 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 |
|---------------------------------------|-----------------------------------|-------|-------|-------|--------|--------|-------|-------|-------|
| Pressure drop in mm H ₂ O. | 0.254 | 0.363 | 0.635 | 1.016 | 1.524 | 2.032 | 2.54 | 3.302 | 4.064 |
| Listed size mm x mm | Air flow in m ³ / sec. | | | | | | | | |
| 150 x 150 | 0.0298 | 0.035 | 0.047 | 0.059 | 0.071 | 0.0827 | 0.094 | 0.106 | 0.118 |
| 225 x 225 | 0.063 | 0.076 | 0.101 | 0.127 | 0.152 | 0.177 | 0.203 | 0.228 | 0.253 |
| 300 x 300 | 0.115 | 0.136 | 0.183 | 0.229 | 0.275 | 0.321 | 0.367 | 0.412 | 0.458 |
| 375 x 375 | 0.179 | 0.212 | 0.285 | 0.357 | 0.428 | 0.499 | 0.571 | 0.642 | 0.713 |
| 450 x 450 | 0.257 | 0.306 | 0.412 | 0.515 | 0.618 | 0.721 | 0.824 | 0.927 | 1.029 |
| 525 x 525 | 0.351 | 0.417 | 0.561 | 0.701 | 0.842 | 0.982 | 1.122 | 1.263 | 1.403 |
| 600 x 600 | 0.458 | 0.596 | 0.733 | 0.916 | 1.0997 | 1.283 | 1.466 | 1.649 | 1.833 |

- Air flow data for non standard sizes can be interpolated from the above data.

CERTIFICATE



Performance Test Certificate

Issued To

DYNFLOW

Intertek has tested a representative sample of a
DYNFLOW Single Deflection Supply Linear Bar Grille - DD

A DD Size (1000 X 150 MM) Double Deflection Supply Linear Bar Grille
was tested in accordance with the standards listed below and was found
to perform in a manner appropriate to the dictates of the standard.

STANDARDS

ANSI/ASHRAE 2006-70 Standard
"Method of Testing for Rating the Performance of Air Outlets and Inlets"
ADC1062: GRD84- "Test Code for Grilles, Registers and Diffusers"

SCOPE OF TESTING

The Single Deflection Supply Linear Bar Grille with damper was tested
with zero degree deflection for the following performance characteristics:
"Reference Intertek Report Number 104016038CRT001-c dated July 2019 ,29"

- A) Sound Power Level ((NC)
- B) Air Volume versus Static Pressure
- C) Area Factor
- D) Throw Pattern

Date: July 2019 ,31

James R. Kline
Intertek
Engineer / Quality Supervisor

This Verification is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to copy or distribute this Verification. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this Verification are relevant only to the sample tested. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

CERTIFICATE



Performance Test Certificate

Issued To

DYNFLOW

Intertek has tested a representative sample of a
DYNFLOW Double Deflection Supply Air Grille - DD

A DD Size (1000 X 200 MM) Double Deflection Supply Air Grille
was tested in accordance with the standards listed below and was found
to perform in a manner appropriate to the dictates of the standard.

STANDARDS

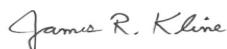
ANSI/ASHRAE 2006-70 Standard
"Method of Testing for Rating the Performance of Air Outlets and Inlets"
ADC1062: GRD84- "Test Code for Grilles, Registers and Diffusers"

SCOPE OF TESTING

The Double Deflection Supply Air Grille with damper was tested
with zero degree deflection for the following performance characteristics:
"Reference Intertek Report Number 104016038CRT001-b dated July 2019 ,29"

- A) Sound Power Level ((NC)
- B) Air Volume versus Static Pressure
- C) Area Factor
- D) Throw Pattern

Date: July 2019 ,31



James R. Kline
Intertek
Engineer / Quality Supervisor

This Verification is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to copy or distribute this Verification. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this Verification are relevant only to the sample tested. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.



SAIF QATAR DUCT FAB

ISO 9001:2015 Certified Company

Industrial Area, Street Number 30, Gate number 28,

Doha-Qatar : P.O.Box No : 12438

Mob: +974 7783 1512 Tel : +974 4417 1230

Fax : +974 4460 1252