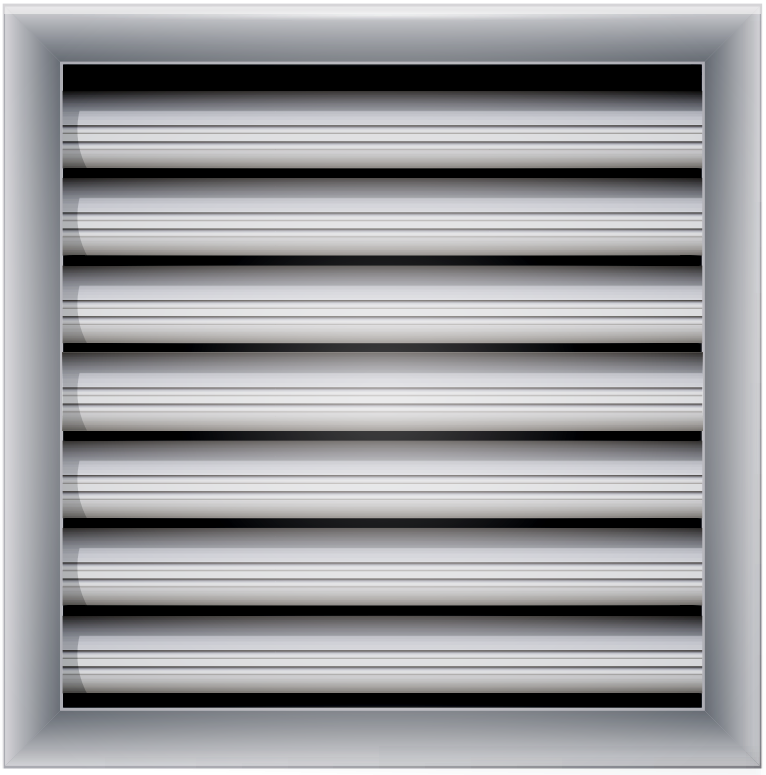
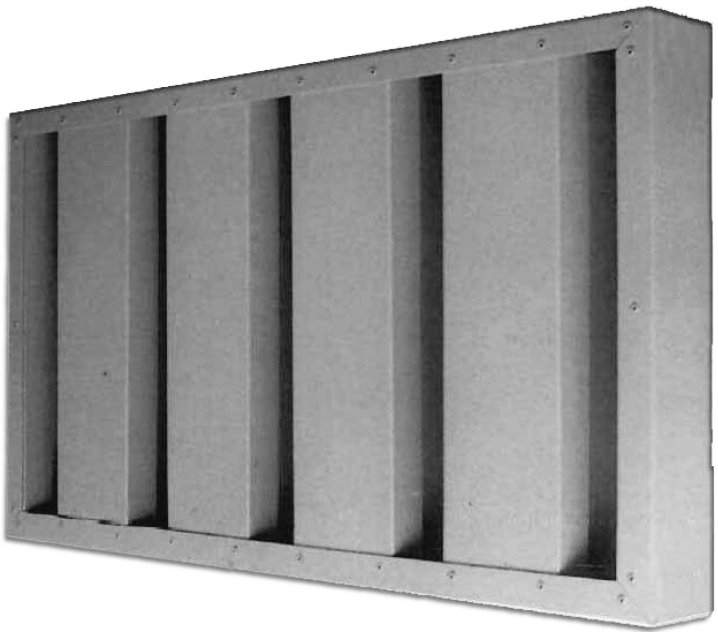
NAFFCO
FLOW CONTROL

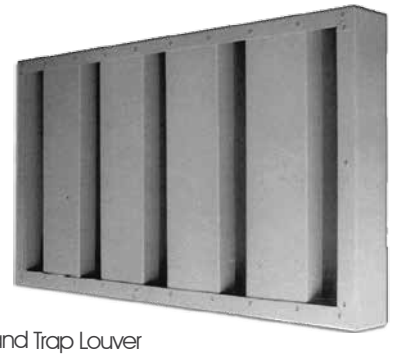
# Fresh Air & Sand Trap Louvers





# Sand Trap Louver

**Sand Trap Louver act as a pre-filter for air conditioning plants to protect from extreme levels of environment pollution & sand dust.**



Sand Trap Louver

## Usage & Application

- The sand trap louver is used at the fresh air inlet side. It lowers the dust loading of conventional filtration as it is designed to separate large size sand particles at low to medium speeds
- The STL is designed to separate large particles at low air velocities, thus avoiding excessive dust loading of conventional filters. It's not intended as a substitute for conventional supply air filtration plant
- The vertically arranged sections and holes at the bottom surface to drain separated sand particles ensure that STL is self-cleaning and maintenance-free.

STL with Mesh

## Features

1. Designed for intake applications to separate sand from Inlet air
2. For bigger sizes, several split sections can be combined to provide any size
3. Multi-sections are supplied with additional sand chute & loose channels for fitting on site
4. Provided with auto emptying sand drain holes from the base
5. Choice of either galvanized steel or aluminium construction
6. Range of Bird mesh and Insect Screens, as an option to protect against unwanted objects.

STL with sand chute

Sand Trap Louver

# Model: NFC STL GI 9710 Standard Construction

## Standard Construction

- **FRAME**: 1.2mm thick GI sheets G-90, as per ASTM653 Standard
- **BLADES**: 0.9mm to 1.2mm thick GI sheets G-90, as per ASTM653 Standard
- **ASSEMBLY**: Mechanically fastened with GI rivets
- **BIRD MESH**: ½" x ½" x 0.051" or 12mm x 12mm x 1mm dia. wire GI mesh PVC coated
- **FINISH**: Mill Finish.

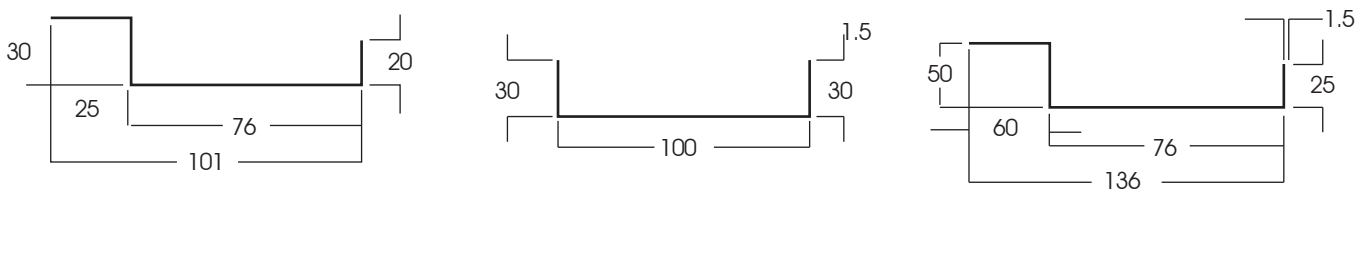
## Options (Upgrades)

- Powder Coated or Spray Paint Finish
- Variety of Bird and Insect Mesh
- Heavy duty STL with frame of 14G GI
- Fresh Air Intake System with Wire Mesh, VCD, sliding AL Filter (removable).

## Dimensions

- Width 'W' and Height 'H' are opening dimensions
- STL is provided with approximately ½" undercut
- Shipping weight is approximately 4 lbs/sq.ft
- Sizes: Standard sizes are as below. Other sizes are optional
  - Min. size panel = 12" W x 10" H
  - Max. single Panel = 64" W x 48" H.

## NFC STL GI 9710 Dimension (standard)



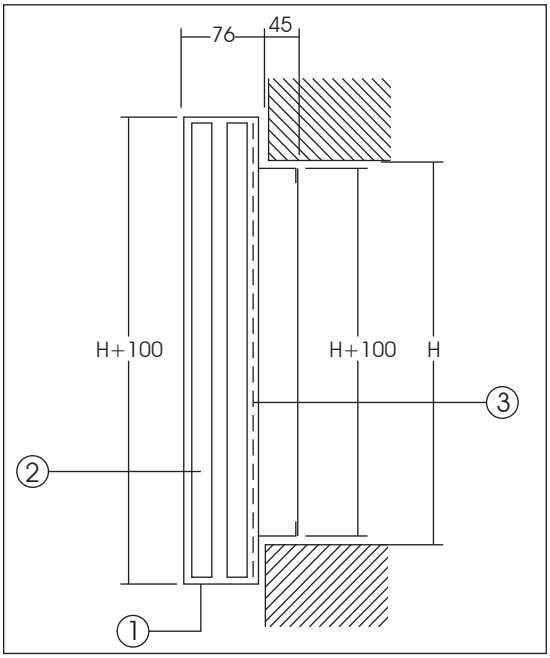
# Sand Trap Louver

**Sand Trap Louver act as a pre-filter for air conditioning plants to protect from extreme levels of environment pollution.**

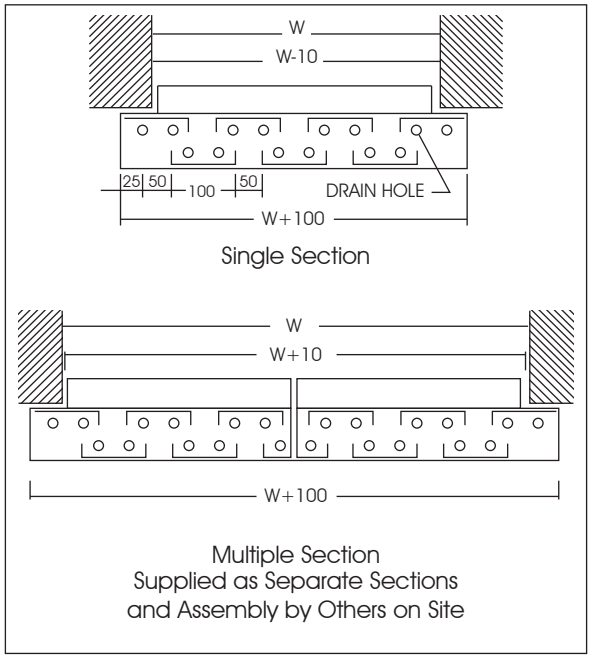
Sand Trap Louver

## Assembly Sketches

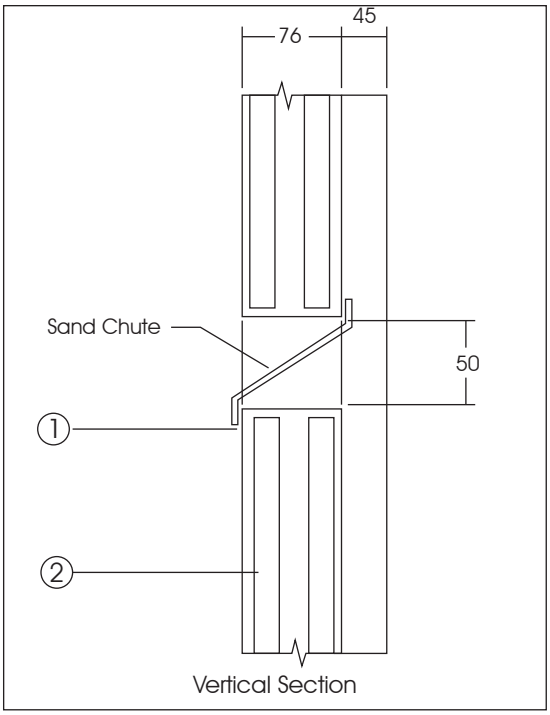
VERTICAL SECTION



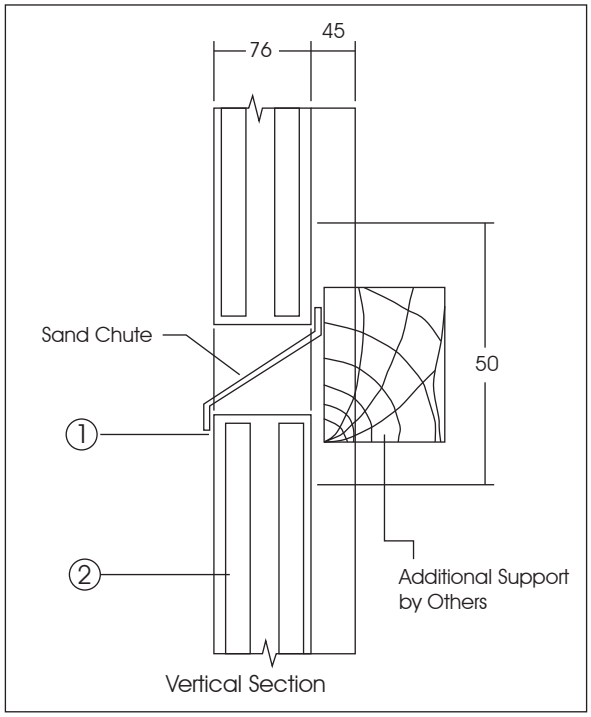

HORIZONTAL SECTION




SINGLE SECTION WITH SAND CHUTE




MULTIPLE SECTION WITH SAND CHUTE



Sand Trap Louver - Aluminium

# Sand Trap Louver
# Model: NFC STL AL 9710

**Sand Trap Louver act as a pre-filter for air conditioning plants to protect from extreme levels of industrial pollution.**

## Model: NFC STL AL 9710
## Standard Construction

- **FRAME:** 1.mm thick nominal; 6063-T6 extruded aluminium alloy. Conform to BS1474
- **BLADES:** 1mm thick nominal; 6063-T6 extruded aluminium alloy. Conform to BS1474
- **ASSEMBLY:** Mechanically fastened with AL Rivets 4.8mm x 12mm
- **SCREEN:** ½" x ½" x 0.051" diameter wire or 12mm x 12mm x 1mm AL coated wire
- **FINISH:** Mill Finish or Powder coated.

## Options (Upgrades)

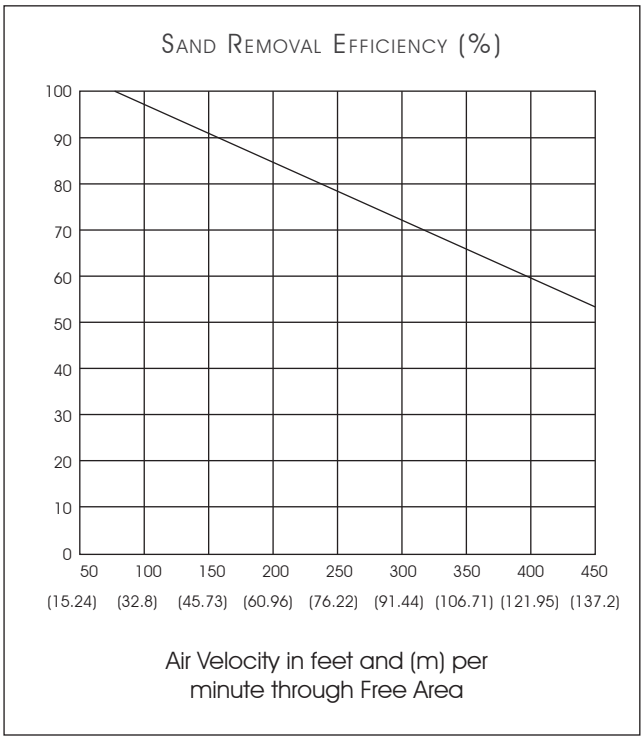
- Powder Coated or Spray paint Finish
- Variety of Bird and Insect Mesh
- Heavy duty STL with frame of 2 to 2.5mm thickness
- Fresh Air Intake System with Wire Mesh, VCD, sliding AL Filter (removable).

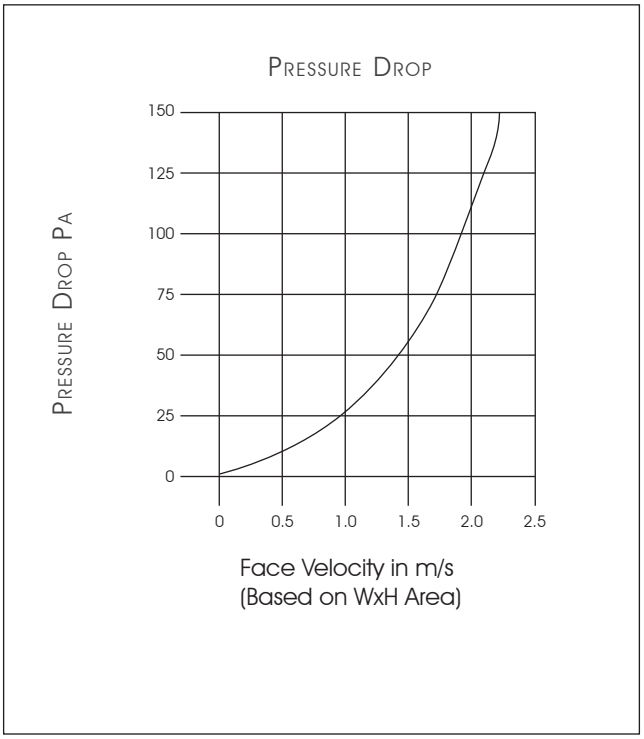
## Dimensions

- Width 'W' and Height 'H' are opening dimensions
- STL is provided with approximately ½" undercut
- Shipping weight is approximately 3 lbs/sq.ft
- Standard sizes are as below. Other sizes are optional
    - Min. size panel = 12" W x 10" H
    - Max. single panel = 64" W x 48" H.

# Sand Removal Efficiency

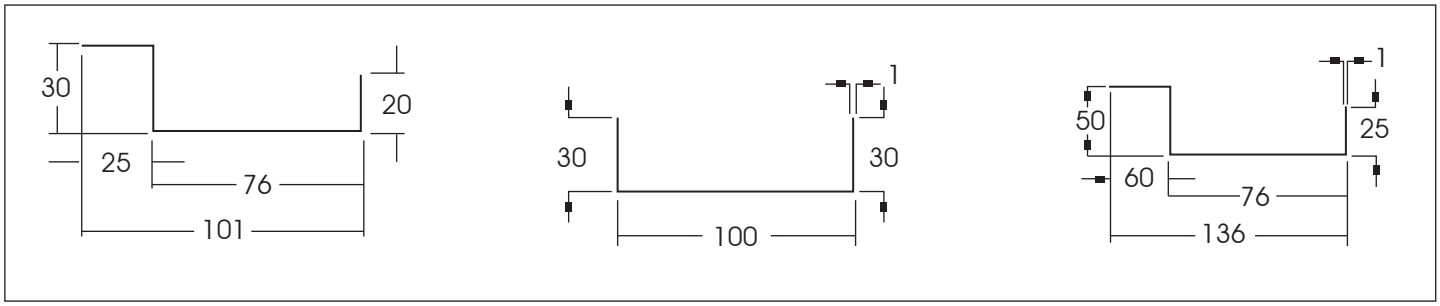
ASSEMBLY SKETCHES




| Performance Data | | |
|---|---|---|
| The Filtration Performance is Dependant on the Dust Type & The Velocity of The Air | | |
| Particle Size | Filtration Efficiency in % | |
| Range | @ 1.0m/s | @ 2.0m/s |
| 350 - 700 | 90 | 70 |
| 75 - 700 | 60 | Approx. 30 |

# NFC STL AL 9710 Extruded Sections




**NOTE:** Dimensional Tolerance as per EN: 12020-2-2001, EN 755-9-2001

# Fresh Air Louver
# Model: NFC FAL GI 9910

**Stationary Louver is designed to provide air intake and air exhaust openings in building exterior walls to protect against the direct ingress of rain.**

## Model: NFC FAL GI 9910
### Standard Construction

The blades are positioned on 45mm to 93mm minimum centres up to 112mm maximum centres at 45 degrees and has a high free area to provide minimum resistance to airflow.

- **FRAME:** Gauge 16 ga. /18 ga. from formed Galvanized steel sheet
- **BLADES:** Gauge 18 ga. / 20 ga. from formed Galvanized steel sheet
- **BIRD SCREEN:** Galvanized steel, 12 x 12 x 1mm (std. supply)
- **MIN SIZE:** 300mm x 300mm
- **MAX SIZE:** 1200mm W x 2000mm H as single section. (Up to 2200mm W x 2000mm H as a single section with vertical mullion on centre. Larger sizes will be in multiple sections).

## Options:

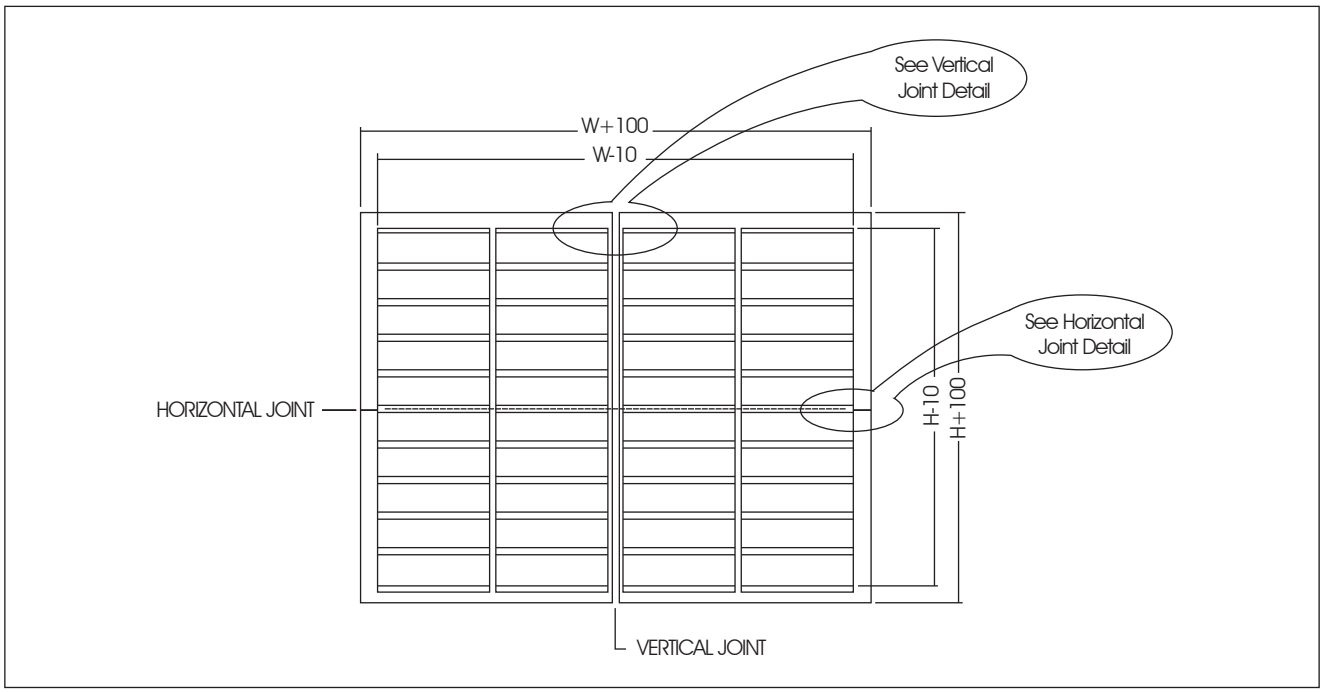
- Code Z - Painted to RAL (Epoxy coated)
- Code I - Insect Screen in galvanized steel 1mm x 1mm x 0.4mm
- Code T - Bird Screen in Stainless steel 12mm x 12mm x 0.7mm.

Fresh Air Louver - GI

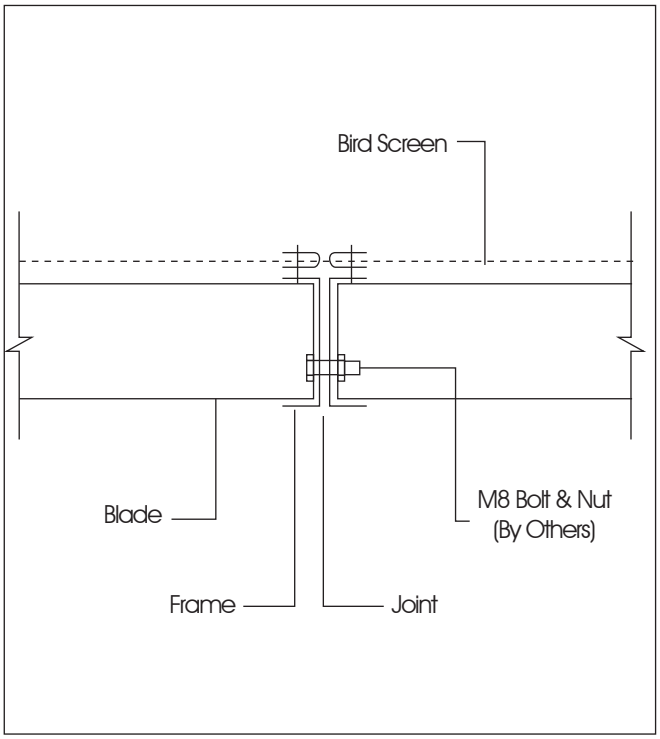
Louver wall with door for enclosure

# Model: NFC FAL GI 9910

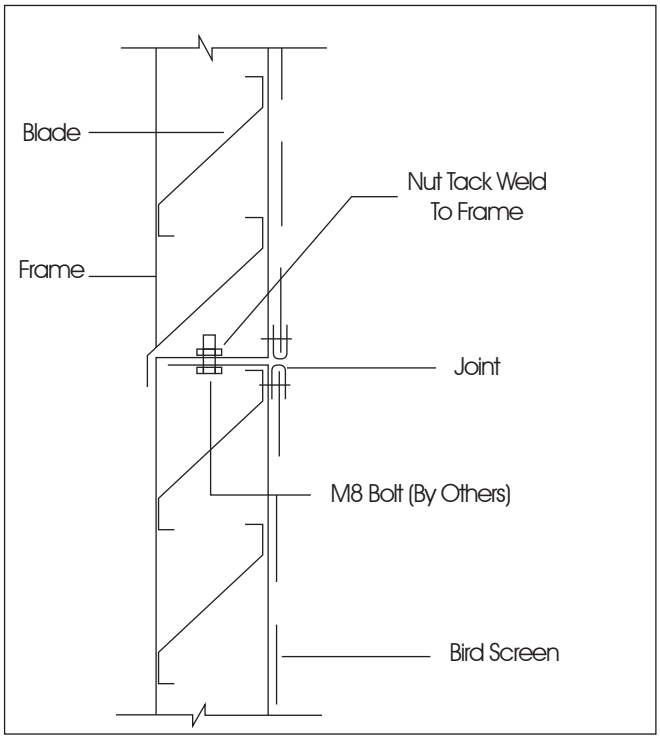
## Assembly Details – Multiple Sections

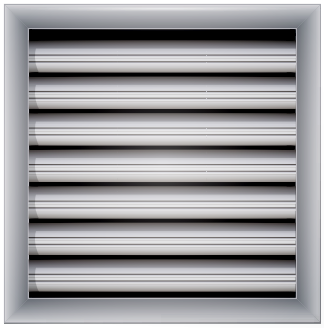



Vertical Joint Detail




Horizontal Joint Detail





# Extract Air Louver

**Stationary Louver is designed to provide air intake and air exhaust openings in building exterior walls to protect against the direct ingress of rain.**

## Model: NFC EAL AL 9910

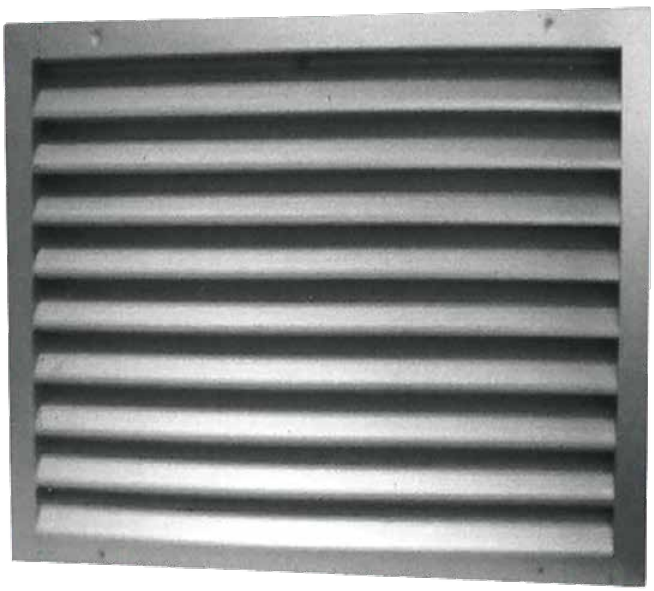
### Standard Construction

The blades are positioned on 45mm to 104mm minimum centres up to 118mm maximum centres at 45 degrees and has a high free area to provide minimum resistance to airflow.

- **FRAME**: Extruded aluminium profile 1.5mm thick
- **BLADES**: Extruded aluminium profile 1.2mm thick
- **STANDARD FINISH**: Powder coated to RAL 9010/9016 Colour
- **SCREEN**: Bird screen/Wire mesh in GI/AL
- **MIN SIZE**: 150mm x 1500mm
- **MAX SIZE**: 3000mm W x 30000mm H - in single section, larger sizes will be in multiple sections.

## Options (Upgrades)

- Other colours are available upon request.
- Bird screen/Wire mesh in stainless steel 12mm x 12 mm x 0.7mm

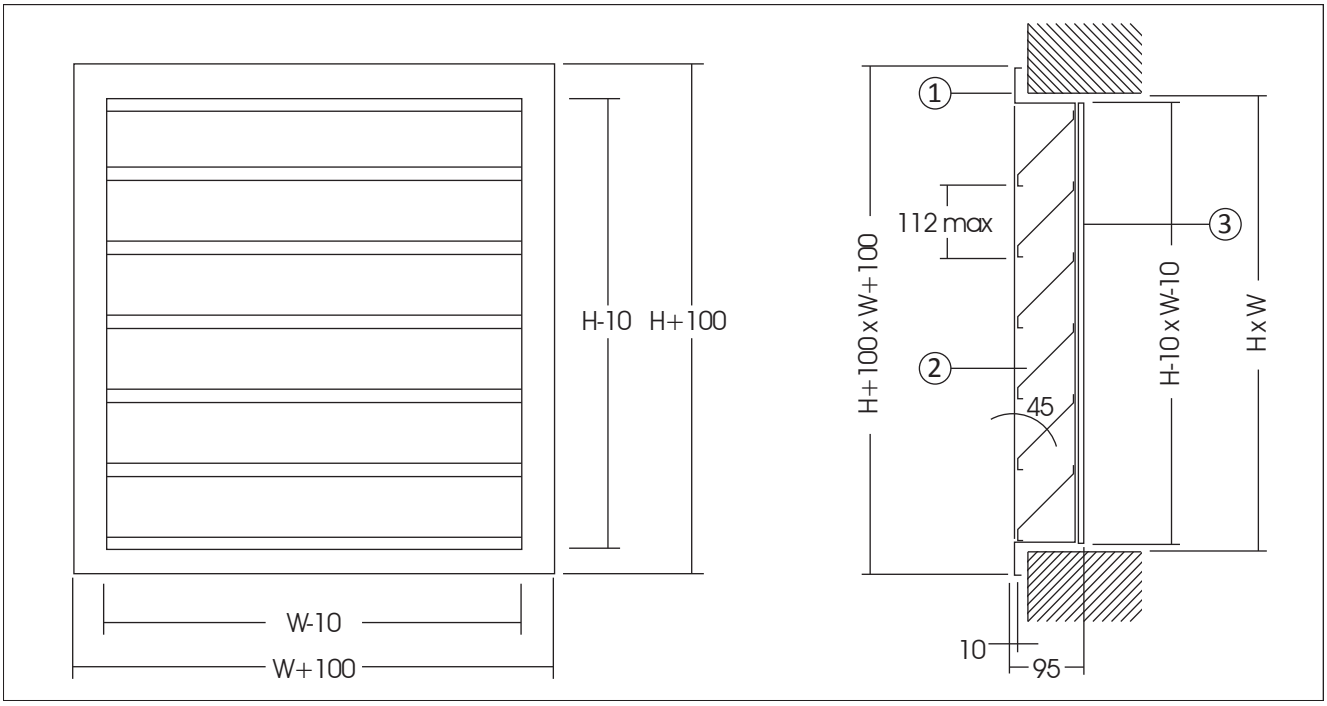


NFC FAL AL 9910

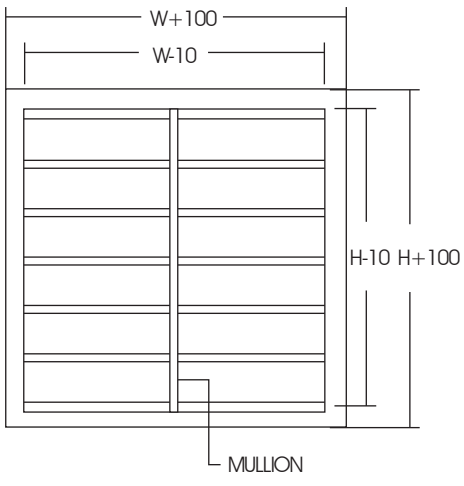
# Model: NFC EAL AL 9910

## Assembly – Single Section

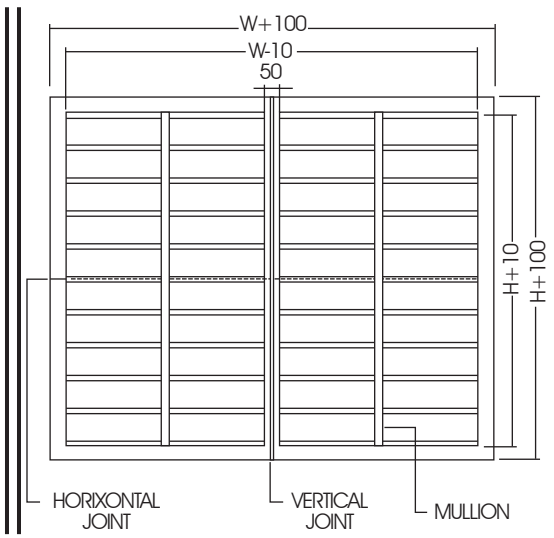
1. Casing 2. Blade 3. Bird Screen

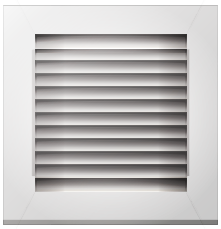


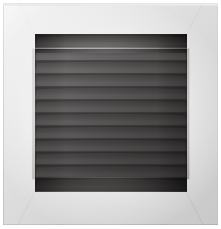

Single Section with Mullion




Multiple Section





# Technical Data
# Model: NFC EAL AL 9910

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

## Selection Procedure for Stationary Louvers

Select Extarct Air Louver with a given Air volume of 1 Cu. m/s and 3.5 m/s free area velocity.
Determine Louver Free Area:

A. Dividing the given air volume (1.5 Cu.m/s) by free area velocity (3.5 m/s, do not exceed to 4.2 m/s for air application).

B. Select a suitable louver from Free Area Chart

- 1.0m Wide x 1.3m High,
- 1.2m Wide x 1.1m High,
- 1.4m Wide x 1.0m High.

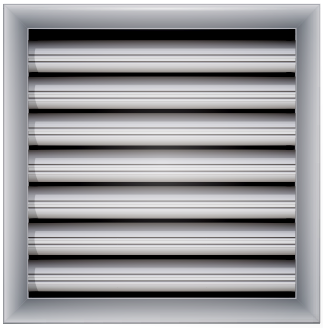
C. Check the pressure drop of the selected louver on the Pressure Drop Chart:
The pressure drop across the selected size of louvers is 25 Pa.

# Technical Data
# Model: NFC EAL AL 9910

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

## Louver Free Area Chart

| H (m) | Width (m) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 |
| 0.3 | 0.013 | 0.018 | 0.024 | 0.029 | 0.035 | 0.040 | 0.045 | 0.051 | 0.057 | 0.062 | 0.064 | 0.070 | 0.075 | 0.081 | 0.087 | 0.092 | 0.098 | 0.103 | 0.109 | 0.114 |
| 0.4 | 0.022 | 0.032 | 0.042 | 0.052 | 0.062 | 0.072 | 0.082 | 0.091 | 0.101 | 0.111 | 0.115 | 0.124 | 0.134 | 0.144 | 0.154 | 0.164 | 0.174 | 0.184 | 0.193 | 0.203 |
| 0.5 | 0.030 | 0.044 | 0.057 | 0.071 | 0.084 | 0.098 | 0.111 | 0.125 | 0.138 | 0.152 | 0.156 | 0.170 | 0.183 | 0.196 | 0.210 | 0.223 | 0.237 | 0.250 | 0.264 | 0.277 |
| 0.6 | 0.039 | 0.056 | 0.073 | 0.090 | 0.107 | 0.124 | 0.141 | 0.158 | 0.175 | 0.192 | 0.198 | 0.215 | 0.232 | 0.249 | 0.266 | 0.283 | 0.300 | 0.317 | 0.334 | 0.352 |
| 0.7 | 0.047 | 0.067 | 0.088 | 0.109 | 0.129 | 0.150 | 0.171 | 0.191 | 0.212 | 0.233 | 0.240 | 0.260 | 0.281 | 0.302 | 0.322 | 0.343 | 0.364 | 0.384 | 0.405 | 0.426 |
| 0.8 | 0.055 | 0.079 | 0.103 | 0.128 | 0.152 | 0.176 | 0.201 | 0.225 | 0.249 | 0.273 | 0.282 | 0.306 | 0.330 | 0.355 | 0.379 | 0.403 | 0.427 | 0.452 | 0.476 | 0.500 |
| 0.9 | 0.063 | 0.910 | 0.119 | 0.147 | 0.175 | 0.203 | 0.230 | 0.258 | 0.286 | 0.314 | 0.324 | 0.352 | 0.379 | 0.407 | 0.435 | 0.463 | 0.491 | 0.519 | 0.547 | 0.575 |
| 1 | 0.082 | 0.119 | 0.155 | 0.191 | 0.228 | 0.264 | 0.300 | 0.337 | 0.373 | 0.409 | 0.422 | 0.458 | 0.495 | 0.531 | 0.567 | 0.604 | 0.640 | 0.676 | 0.713 | 0.749 |
| 1.1 | 0.091 | 0.132 | 0.172 | 0.213 | 0.253 | 0.293 | 0.334 | 0.374 | 0.415 | 0.455 | 0.469 | 0.509 | 0.549 | 0.590 | 0.630 | 0.671 | 0.711 | 0.751 | 0.792 | 0.832 |
| 1.2 | 0.099 | 0.143 | 0.187 | 0.231 | 0.275 | 0.319 | 0.363 | 0.407 | 0.451 | 0.495 | 0.510 | 0.554 | 0.598 | 0.642 | 0.686 | 0.730 | 0.774 | 0.818 | 0.862 | 0.906 |
| 1.3 | 0.107 | 0.155 | 0.203 | 0.250 | 0.298 | 0.345 | 0.393 | 0.440 | 0.488 | 0.536 | 0.552 | 0.599 | 0.647 | 0.694 | 0.742 | 0.789 | 0.837 | 0.885 | 0.932 | 0.980 |
| 1.4 | 0.116 | 0.167 | 0.218 | 0.269 | 0.320 | 0.371 | 0.422 | 0.474 | 0.525 | 0.576 | 0.593 | 0.644 | 0.695 | 0.747 | 0.798 | 0.849 | 0.900 | 0.951 | 1.002 | 1.053 |
| 1.5 | 0.124 | 0.178 | 0.233 | 0.288 | 0.343 | 0.397 | 0.452 | 0.507 | 0.562 | 0.616 | 0.635 | 0.690 | 0.744 | 0.799 | 0.854 | 0.909 | 0.963 | 1.018 | 1.073 | 1.127 |
| 1.6 | 0.132 | 0.190 | 0.248 | 0.307 | 0.365 | 0.423 | 0.482 | 0.540 | 0.598 | 0.657 | 0.677 | 0.735 | 0.793 | 0.852 | 0.910 | 0.968 | 1.027 | 1.085 | 1.143 | 1.202 |
| 1.7 | 0.140 | 0.202 | 0.264 | 0.326 | 0.388 | 0.450 | 0.512 | 0.574 | 0.635 | 0.697 | 0.718 | 0.780 | 0.842 | 0.904 | 0.966 | 1.028 | 1.090 | 1.152 | 1.214 | 1.276 |
| 1.8 | 0.148 | 0.214 | 0.279 | 0.345 | 0.410 | 0.476 | 0.541 | 0.607 | 0.672 | 0.738 | 0.760 | 0.826 | 0.891 | 0.957 | 1.022 | 1.088 | 1.153 | 1.219 | 1.284 | 1.350 |
| 1.9 | 0.156 | 0.225 | 0.295 | 0.364 | 0.433 | 0.502 | 0.571 | 0.640 | 0.709 | 0.778 | 0.802 | 0.871 | 0.940 | 1.009 | 1.079 | 1.148 | 1.217 | 1.286 | 1.355 | 1.424 |
| 2.0 | 0.164 | 0.237 | 0.310 | 0.383 | 0.455 | 0.528 | 0.601 | 0.674 | 0.746 | 0.819 | 0.844 | 0.917 | 0.989 | 1.062 | 1.135 | 1.208 | 1.280 | 1.353 | 1.426 | 1.499 |



# Fresh Air Louver

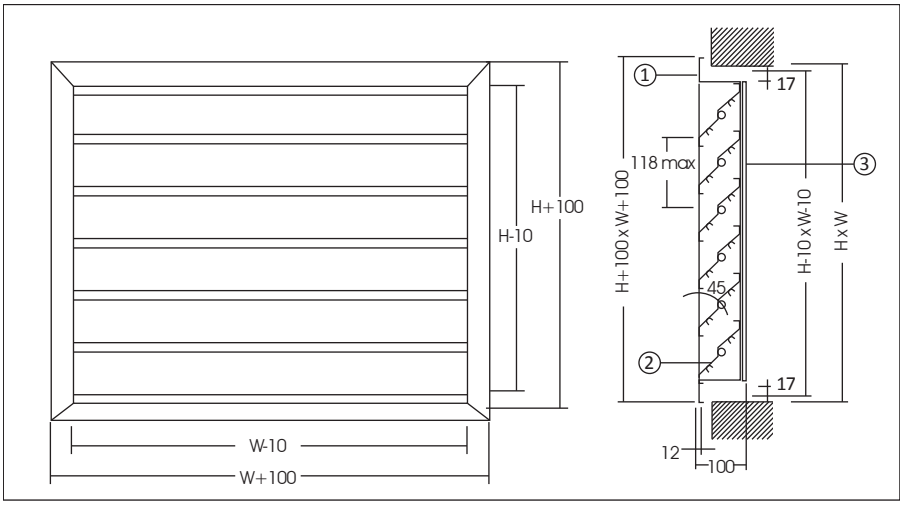
**Stationary Louver is designed to provide air intake and air exhaust openings in building exterior walls to protect against the direct ingress of rain.**

## Model: NFC FAL AL 9510

General construction as type NFC FAL AL 9510 but with drainable frame and blades. Drain gutter in each blade and downspouts in vertical frames allows water to drain from louver to minimize water cascade from blade to blade.

## Single Section

1. Casing 2. Blade 3. Bird Screen




## Single Section

1. Drainable Frame 2. Drainable Blades 3. Bird Screen