Suggested Specifications

GRAVENT ventilators are designated as follows:

GV - AA – XX YY - BB - CC - DD

The nomenclature conveys the essential features of the specification.

- GV GRAVENT Ventilators
- AA Type Code
  - R Ridge Ventilator Installed along Ridge
  - DS Ridge Ventilator Installed Down the Slope
  - LP Low Profile installed Down the Slope
  - LR Low Profile installed along Ridge
- XXYY Size
  - Throat width in mm for Ridge Ventilators
  - Nominal width & no. of openings for Low Profile Ventilators
  - i.e. 25 06 means Width ± 2500mm with 6 openings
- BB Material
  - Z Galvalume Sheet 0.47 mm AlZn - 150gsm, 550 mPa
  - G Galvanized Sheet - 0.50 mm Zn -120 gsm, 240 mPa
  - A Aluminium Alloy AA 3105 – 0.71 mm – H4 Sheet
- CC Screens
  - GC Galvanized Crimp net 25 x 25 x 1.60 dia wire
  - AC Aluminium Crimp net 25 x 25 x 2.00 dia wire
  - PS Plastic rigid mesh 25 x 25 diamond
  - NO No screens
- DD Finish
  - MF Mill Finish
  - PPS Pre Painted Sheet - Pure Polyester Paint
  - XPS Pre Painted Sheet - Silicon Modified Polyester
  - PC Powder Coated Finish - Pure Polyester Powder

Supply and Install gravity ventilators Gravent Low profile as manufactured by _____ (or equivalent). The Gravent Low profile will have a double layer blade arrangement to prevent rain ingress. The ventilator be designed to cover a 3 roofsheet (3000 mm) wide gap in the roof sheeting. The length of the ventilator will be as per detailed system design and will start at the ridge (topmost) purlin and end at a purlin to be decided. The no of pitches will be to suit length. The general specifications and material of construction will be as per the detailed Nomenclature and specifications attached. The ventilator to be self-supporting over its dimensions and be designed for a wind speed of 50m/sec. The support reactions at the mounting points should be declared by vendor for approval by structural consultant.

Our Clientele

Specifiers

AEDBM Consultants

JRCC Consultants

L&S Architects

End Users

Gokaldas Images

PPAP Automotive

Chamundi Diecast

GRAVENT
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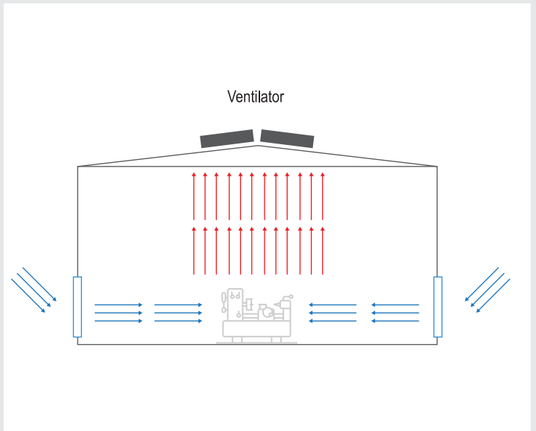
WORKING PRINCIPLE

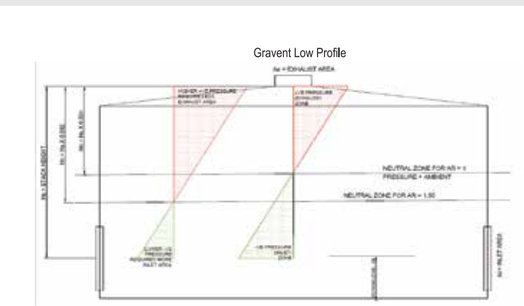
GRAVENT works on the ‘stack or chimney effect’ that is available in all buildings which have a process going on in them. All work done is released to the building as heat which results in a rise in temperature inside the building. The Ventilation System Design (VSD) for GRAVENT uses this heat as well as the solar heat gained from the building envelope to provide the motive force for exhaust.

This heated air being lighter, since density is inversely proportional to temperature, rises and accumulates in the roof space. An exhaust opening provided at the highest point will exhaust this hot air which in turn draws in fresh air from low level inlet openings.

While there will be an aspirating effect of external wind, we do not consider this in design since its cumulative increase in capacity <15%. The system should work in worst case which is still wind.

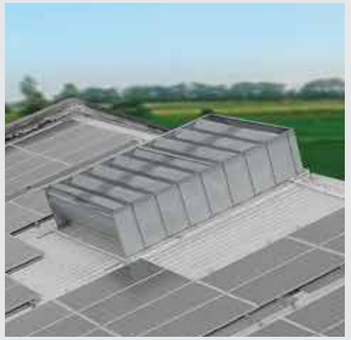
Constant Mass device – For a given sensible heat load, an oversized vent will result in a reduction in exhaust temperature and velocity with an increase in the density of exhaust air. On the other hand, an undersized vent will result in an increase in exhaust temperature and velocity with a corresponding decrease in the density of exhaust air. The mass of air being handled remains the same. Hence it is extremely important that the sensible heat gains in the building be accurately defined. It is safer to undersize the vent to maintain a higher pressure at the exhaust point as an added precaution to prevent rain ingress provided care is taken to ensure that the temperature of the hot air plenum in the upper part of building does not affect the temperatures in the working zone..





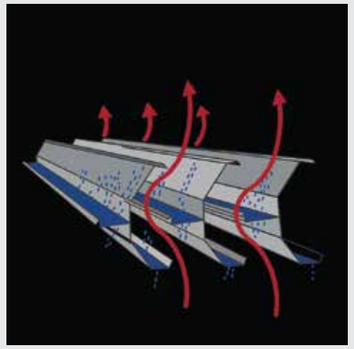
Neutral plane concept – Exhaust needs a positive pressure below the exhaust to drive out the air and an inlet through the low-level inlets needs a negative pressure inside the building at the inlet level. This means that there has to be a plane somewhere in between which is at neutral (ambient) pressure. The depth of the plane determines the effective stack height available for ventilation and is determined by the Area Ratio (Ar) = Inlet Area (Ai) / Exhaust Area (Ae).

LOW PROFILE VENTILATORS



Low profile design allows this Alluminium, or Galvalume (or any sheet metal) exhaust vent cap to sit close to the roof line. A mesh screen keeps insects and critters out while allowing maximum venting.

cross section view



RIDGE VENTILATOR

Protected monitors (side openings are protected against wind) where the final exhaust opening is top facing and the air path through the ventilator is precisely defined for minimum friction losses. made by Gravent.

cross section view