DESIGN GUIDE
SECTION 1

Displacement ventilation has been use in Scandinavia and other countries since 1970 and has gained popularity here in Britain over the last few years. Primarily designed to reduce the cooling cost in the paper making and printing industries the system soon found other areas of use as diverse as Theatres and Factories, Offices and Leisure Complexes.
With each project completed the knowledge gained was used to improve the methods of air volume and supply temperature calculations. From this the parameters have been set and include the following:

Total Loads to the space.
Thermal Loads.
Convection Loads.
Surface Temperatures.
Heights of Loads.
Room Heights.
Room usage.

Using these we can now predict with accuracy the requirements and the conditions of the space.
Displacement ventilation uses the convection effect of space loads to create a natural air movement. Supply air is introduced at low level and at low velocities directly into the occupied space. The quantity and quality of the air ensures a minimum temperature gradient in the occupied space from where the excess heat and impurities are removed to the ceiling area by the natural convection. As some of the heat loads are out of the occupied zone i.e. lighting, then the convection does not enter the zone and can in the main be disregarded. The temperature gradient above the zone therefore can be 6 - 8^{0}C dependant on room height and position of gains.

Grada UK were instrumental in the early promotion of Displacement and consequently have a vast knowledge of information gained from installed projects using Displacement. This knowledge is now put to use on every project we are involved with using the **Grada UK Displacement Design Guide**.

We would be pleased to assist you in the design of your Displacement system using the **Grada UK Displacement Design Guide**.

on the attached pages you will see images of the shapes available.
For assistance in selection of size and shape, please call our sales team. They will gladly select the right size and shape for your project and you will also receive from this selection a full technical report giving a drawing with all sizes indicated and all the air volume capacity the unit can handle.