Johnson & Starley

Dravo Division

KING Destratification Units

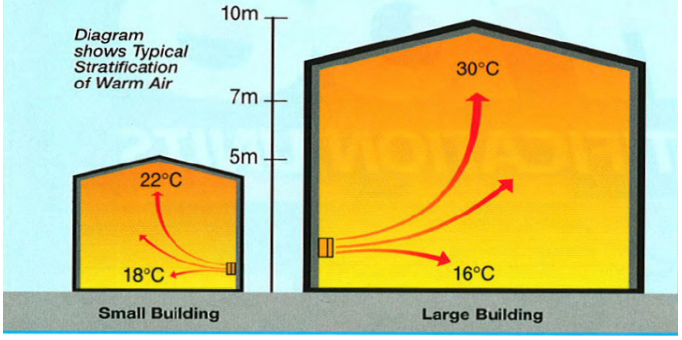
Quietly Cutting Your Heating Costs… While You Work

KING is a breakthrough in fan design; it has been engineered to provide constant mixing of air in a large environment. This process eliminates stratification of temperature and humidity in industrial and commercial buildings.
To ensure correct mixing of air, a specially designed helicentrifugal rotor has been developed. This utilises an innovative `convergent-divergent' mixing process.
The continual mixing of air layers creates a zonal equilibrium in terms of temperature, humidity and pressure.
The King helicentrifugal rotor permits uniform mixing of the air without pronounced air draughts. Its action is continuous and facilitates consistent microclimatic conditions.

- ***Unique Patented Fan Design***
- ***Low Draught Operation***
- ***Low Noise Output***
- ***Up To 30% Saving On Heating Costs***
- ***Many Ideal Applications - factories, warehouses, sports halls, swimming pools, art galleries, museums, farming, greenhouses, etc.***

... A TYPICAL HEATING PROBLEM

Conventional heating appliances are often used in industrial and commercial buildings, where warm air is dissipated within the building by convection currents. Whilst this will produce acceptable uniformity of temperature in a small building, this is not the case in a large environment as the warm air stratifies towards the ceiling. On occasion the temperature difference can be as high as 10/15°C.



It is common knowledge that heat rises, escaping through the windows, walls and roof. This creates two major problems:

1. Energy losses.
2. Difficulty in heating the air at ground level.

Stratification of humidity occurs in the opposite sense, with higher moisture levels towards the lower areas of the building. This can, in some working environments, make working and living conditions difficult during certain seasons of the year. Problems associated with this include:

1. Deterioration of the structure and fittings due to:

a. Condensation.
b. Oxidation.

2. Environmental discomfort.

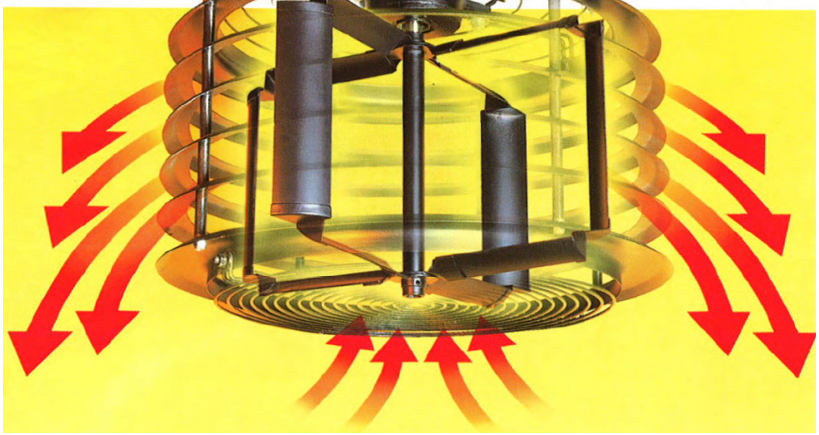
Standard helical destratifiers are thermostatically controlled to avoid the flow of cold air towards floor level after the initial mass of hot air has been expelled. It follows that the operation of traditional destratifiers is intermittent, with the unit stopping until there is a build up of hot air in the roof area.

This type of operation generates unsatisfactory conditions at ground level. Furthermore, heat recuperation is discontinuous and incomplete.

In addition, the movement of air in a vertical direction does not generate uniform distribution horizontally. There is therefore still a problem of varying conditions in different zones within the building.

SAVES UP TO 30% OF HEATING COSTS

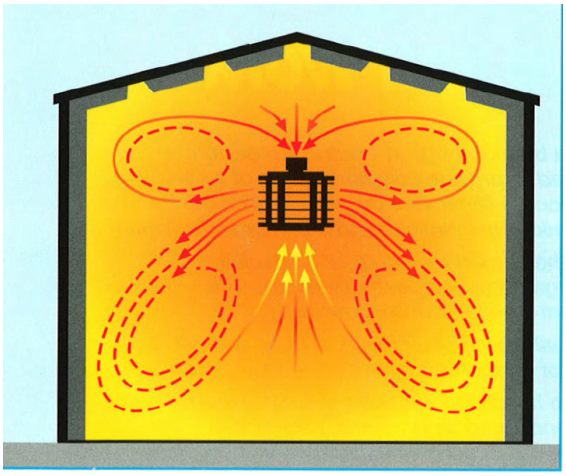
Results from a large number of installations in varied conditions indicate an average reduction in heating costs of 20-30%.



..THIS IS THE SOLUTION

The KING Destratification Unit

The KING unit mixes and recirculates warm air produced by heaters. This inhibits stratification and achieves thermal equilibrium throughout the building. The KING is a preventative system no a corrective one.
The KING replaces traditional destratifiers (helical blades) which transfers hot air from ceiling to ground level. This creates downward draughts that can cause discomfort to personnel.



KING in operation in a typical industrial unit. NOTE the unique total mixing of air by our patented helicentrifugal rotor design.

	Model Type	
	K75	***K100***
Diameter (mm)	680	680
Height (mm)	500	500
Weight (kg)	16	18
Typical Coverage Area (m²)	200	300
Max Building Height (m)	8	18
Air Volume Circulated (m³/h)	7500	10000
Noise (dBA)	30	30
Motor Power Consumption (W)	200	300
Motor Current (A)	1.7 / 1.0	1.7 / 1.0
Motor Rotational Speed (RPM)	735	735
Motor Type	1 ph / 3 ph	1 ph / 3 ph
Power Supply (V)	230 / 415	230 / 415
(Hz)	50	50

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