January 2020

REZNOR®

Trusted Heating Solutions

DS-4 & Impellor Series

Destratification Fans

NORTEK™

GLOBAL HVAC

DS-4 Series

With any conventional air heating system warm air will rise to roof level by natural convection. In high buildings such as factories, warehouses and sports centres, this can result in high temperature gradients and consequently increased energy usage.

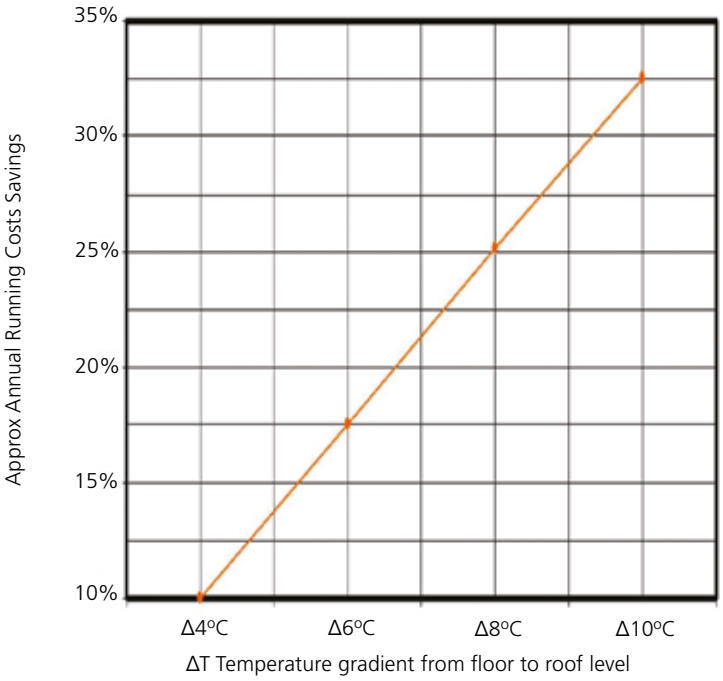
Reznor destratification fans reverse the natural convection process, recirculating warm air back to working level providing a permanent reduction in roof space temperature and uniform temperature distribution.

Model Range

Destrat fans are available in four sizes, with mounting heights ranging from 4m to 18m and air volumes from 3,000 m^3/h up to 9,000 m^3/h.

DS units are supplied with a high efficiency axial fan with mesh finger guard, robust cabinet with four point suspension and four way discharge adjustable louvres. Frost protection unit excluding integral thermostat also available.

Potential savings by reducing excess of heating stratification



For effective de-stratification, sufficient fans must be installed to re-cycle heat from the full roof area.

Installation

DS units are supplied ready for automatic operation with installation only requiring mounting and connection to a single phase electrical supply.

Standard units are supplied with an integral thermostat to operate the fan as soon as the roof space temperature rises above the set point.

For frost protection applications units are supplied without thermostats to be linked to frost protection controls. The four-way adjustable outlet blades allow the air direction and terminal velocity to be set to suit the application and mounting height.

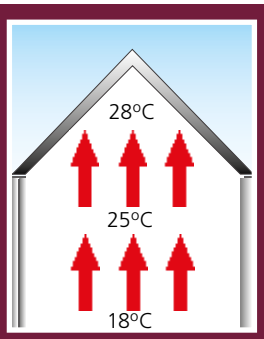
Design Data

Select the DS unit to suit the mounting height required, ideally the units should be installed approximately 1 metre below the apex.

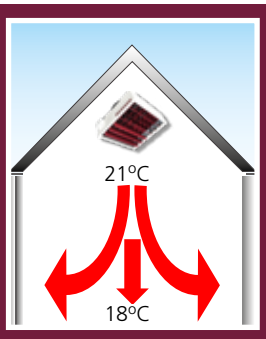
Calculate the volume of the building and multiply by two to determine the amount of air that needs to be re-circulated for effective de-stratification. Divide by the primary air volume of the unit to determine the number of units required.

Features

- Heat recovery by re-circulating high level hot air back to occupancy level
- Reduced fuel bills by eliminating excess heat loss through the roof
- Heat reclaim from lighting and machinery
- Improved comfort level for occupants
- Reduced pre-heat time



Without de-stratification heat rises resulting in poor distribution, increased heat loss and running costs.

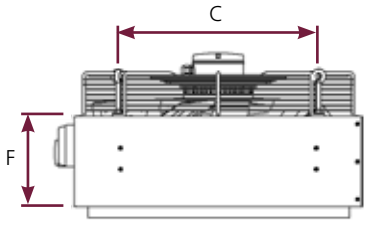


The DS fan returns heat to the working zone for improved comfort and reduced running costs.

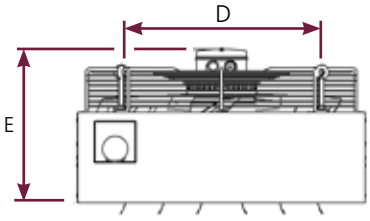
Technical Data		Model Ref			
		DS3-4	DS4-4	DS6-4	DS10-4
Mounting height	m	4 to 8	6 to 12	6 to12	10 to 18
Primary air volume	m^3/h	3,000	5,300	6,600	9,000
Electrical supply		230V 1N 50Hz			
Current rating	A	0.52	1.15	1.75	2.4
Absorbed power	kW	0.11	0.25	0.38	0.52
Sound pressure level[1]	dB(A)	50	54	57	62
Net weight	kg	13.5	17	17.5	25.5

1 Sound level @ 5m, Q=1, A=160m^2

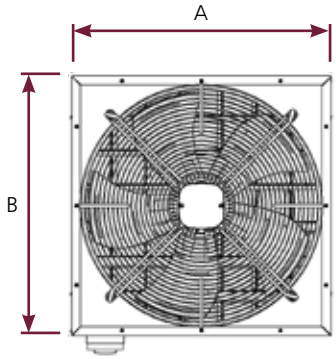
Dimensions		DS3-4	DS4-4	DS6-4	DS10-4
Width	A	492	573	573	694
Depth	B	492	573	573	694
Suspension Centres	C	332	365	400	440
Suspension Centres	D	332	365	400	440
Height	E	306	345	306	345
Casing Height	F	180	180	180	180



Side view

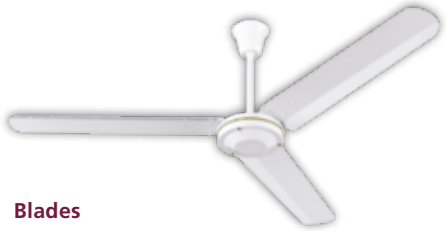


Front view



Top view

Impellor Series



These quiet but powerful fans gently propel the warm air down into the working zone. The displacement of this pool of warm air from the roof void to low level has a positive impact in the reduction of fuel usage which, depending upon building height, can be as much as 15%.

Additionally, the air movement recommended has a distinctly beneficial effect on operative comfort levels by providing a high level of uniformity of warmth throughout the area where fans are applied.

Model Range

Select the fan unit to suit the mounting

Height requirements

Ideally, the fan should be mounted above the lighting system and with a clearance of at least 750mm between the blades and the roof. The minimum height should take account any obstruction and the safety of personnel. The minimum recommended mounting height is 2.5 m.

Calculate the buildings floor area in square metres, then divide the result by the floor area coverage for the fan size selected. Bear in mind that the floor area coverage is based on maximum mounting height and this reduces if the fans are mounted lower.

Specification

Motor Hub

Manufactured from die cast aluminium ensures elegance, durability and reliability.

Blades

Each fan has three precision formed, dynamically balanced blades.

Air Distribution

The fans gently move warm air back down to the lower working level.

Controls

Reznor offer two types of speed controllers, the first having the capability of controlling up to five fans, whilst the second has the capability of controlling up to twelve fans. As well as speed adjustment capabilities, the controls rocker switch can be utilised to propel the fan(s) backward as well as forward.

Technical Data For B-IMI400-C		
Air displacement	m^3/h	Up to 12,000 m^3/h
Mounting heights	m	2.5 to 12
Floor coverage (at Max. height)	m^2	130
Max fan centres	m	12
Clearance to walls	m	2.5
Electrical supply Fuse rating Motor	V/ph/hz amps Watts	230/1/50 3 60
Height Blade sweep	mm mm Ø	940 1400
Net weight	Kg	4.3

Other products in the Reznor range:-

- Warm air heaters
- Radiant heating
- Air curtains
- Heating & ventilation units
- Packaged rooftop units
- Air induction systems
- Gas fired heater modules
- Evaporative cooling

GB/REZ/DS/002/0120

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