

# Ceiling Fans



**hydor**



# HCF Ceiling Fans

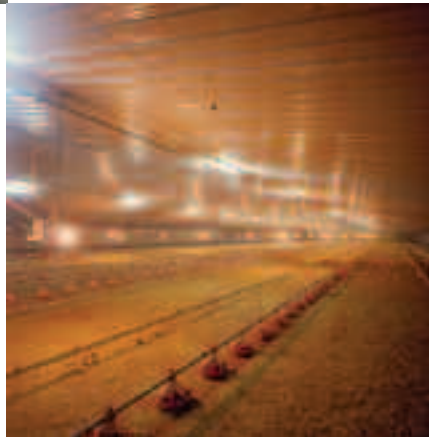
Hydor HCF Ceiling fans have been developed around our customers needs to increase the level of temperature efficiency throughout the year within their buildings.

From farmers to factory managers, Hydor principally operates in agricultural and industrial markets, understanding the importance of providing positive air movement conditions for animals and humans alike.

The HCF range of ceiling sweep fans, available in three sizes, 36", 48" and 56" are specifically designed to eliminate heat stratification by forcing warm or heated air down again, equally, HCF units are also designed to provide positive air movement for continuous cooling.

The market applications are so diverse, ranging from poultry, for heat de-stratification, dairy for herd cooling, seasonal office cooling, to factories and workshops, kitchens, industrial warehousing and hospitals to name a few.

Applications are one thing, benefits another, so whether it's energy cost savings, heat stress reduction in animals, comfortable staff working conditions, dryer bedding litter for poultry, reduced condensation in buildings or thicker coats for your dairy herd, Hydor's ceiling fans and application knowledge can benefit you.



## Features & Benefits

- Capacitor start and run motor fitted with ball bearings. Class E insulation, suitable for 40°C ambient operating temperature.
- HCF fans are supplied with two down rod lengths as standard.

The short down rod is 150mm, suitable where the fans are mounted below the ceiling or roof height, for example, beams.

The long down rod is 400mm in length.

- An additional safety feature of the ceiling fan is a steel cable which passes through the drop rod, connecting the motor body to the J-hook mounting bracket.
- Ease of installation which can be carried out by a qualified electrician.
- Low capital investment yields returns sooner.
- The HCFC1.7 reversing ceiling fan controller provides an extra dimension to typical installations as the fan speed can be selected to match changing environmental conditions, particularly relevant to installations where the mounting height is lower. Each HCFC1.7 controller has been specifically designed to provide control of either one or up to 5 HCF fans. HCFC1.7 controllers are infinitely variable with solid state components, insulated spindle, white cover plate and suitable for surface mounting only. HCF fans can be used with an HCFC1.7 controller, Hydor 5-Step transformer and an On/Off switch.

- Hydor 5-step transformers are available for HCF fans where the need for completely silent running is required.
- Fully Reversible - Where minimal air disturbance is required, HCF fans can be fully reversed at the flick of a switch. With this setting, the air is forced upwards to the ceiling area, then down the walls to the desired area.
- Flexible for either summer cooling and comfort or heat conservation
- A full 12 months warranty on all HCF Models.

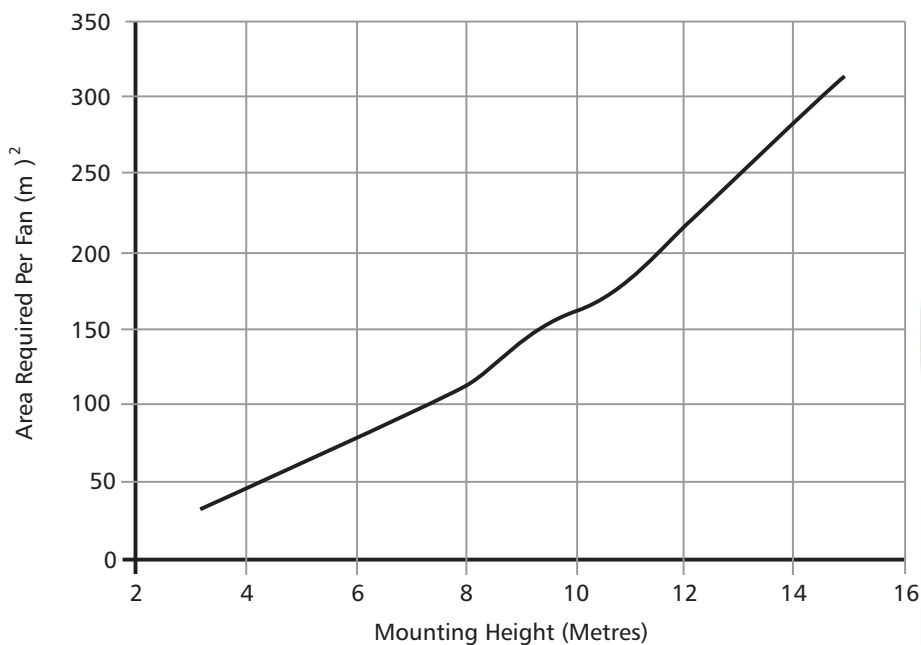


# Fan Selection

## General Fan Selection

Whether it's a heating or cooling requirement, it is important to determine the precise number of fans required. In order to do this;

- 1) Decide upon the mounting height of the ceiling fans (There must be a minimum distance of 2.3m between the floor and the lowest point of the ceiling fan).
- 2) Determine the floor area in Square metres.
- 3) Graph 1.0 below should be used to ascertain the area required by each HCF Fan at the mounting height.
- 4) By dividing the floor area with the area required from Graph 1.0 this allows you to round up to the next whole number, thereby determining the number of fans required.



Graph 1.0

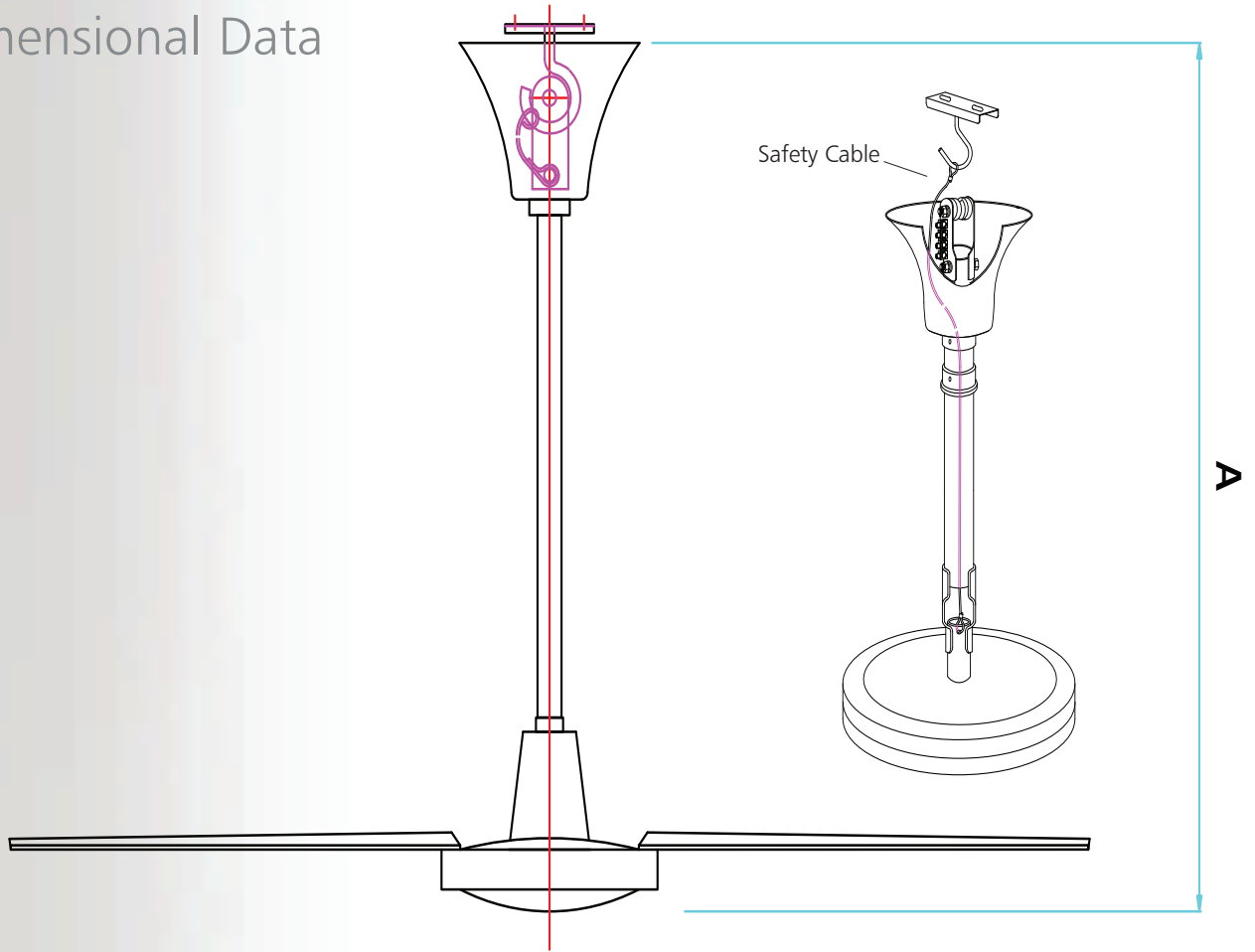
## Ceiling Fan Selection for Heat Conservation

Fan selection depends upon the height and area of the building. As a guideline, Hydor provides useful details below to calculate the number and types of ceiling fans required.

- (A) Select one HCF900 (36") per 33m<sup>2</sup> / 355ft<sup>2</sup>  
Select one HCF1200 (48") per 90m<sup>2</sup> / 968ft<sup>2</sup>  
Select one HCF1400 (56") per 145m<sup>2</sup> / 1560ft<sup>2</sup>
- (B) Select HCF900 (36") units for a maximum of 3m / 10ft mounting height  
Select HCF1200 (48") units for a maximum of 6m / 20ft mounting height  
Select HCF1400 (56") units for a maximum of 9m / 30ft mounting height

Please note the 'mounting height' refers to the distance between the blades and the floor. There must be a minimum distance of 2.3m between the floor and the lowest point of the fan.

# HCF Dimensional Data



Product Model	A	Weight kg
HCF 900	610/360	4.0
HCF1200	610/360	4.5
HCF1400	610/360	5.0

N.B. All Dimensions are expressed in millimetres  
Dimension A is determined by down rod length

# HCF Performance & Electrical Data

Product Model	HCF900	HCF1200	HCF1400
FAN DIA (mm/ins)	900/36	1200/48	1400/56
TYPE OF BEARING	BALL		
TYPE OF MOTOR	TOTALLY ENCLOSED CAPACITOR		
VOLTAGE	230V		
FREQUENCY	50 Hertz		
WATTS FULL SPEED	43	55	67
r/min MAX	330	315	290
FLC Amps	0.21	0.25	0.30
AIR DELIVERY MAX	2.25 m <sup>3</sup> /s	3.5 m <sup>3</sup> /s	3.92 m <sup>3</sup> /s

# Winter Heat Conservation

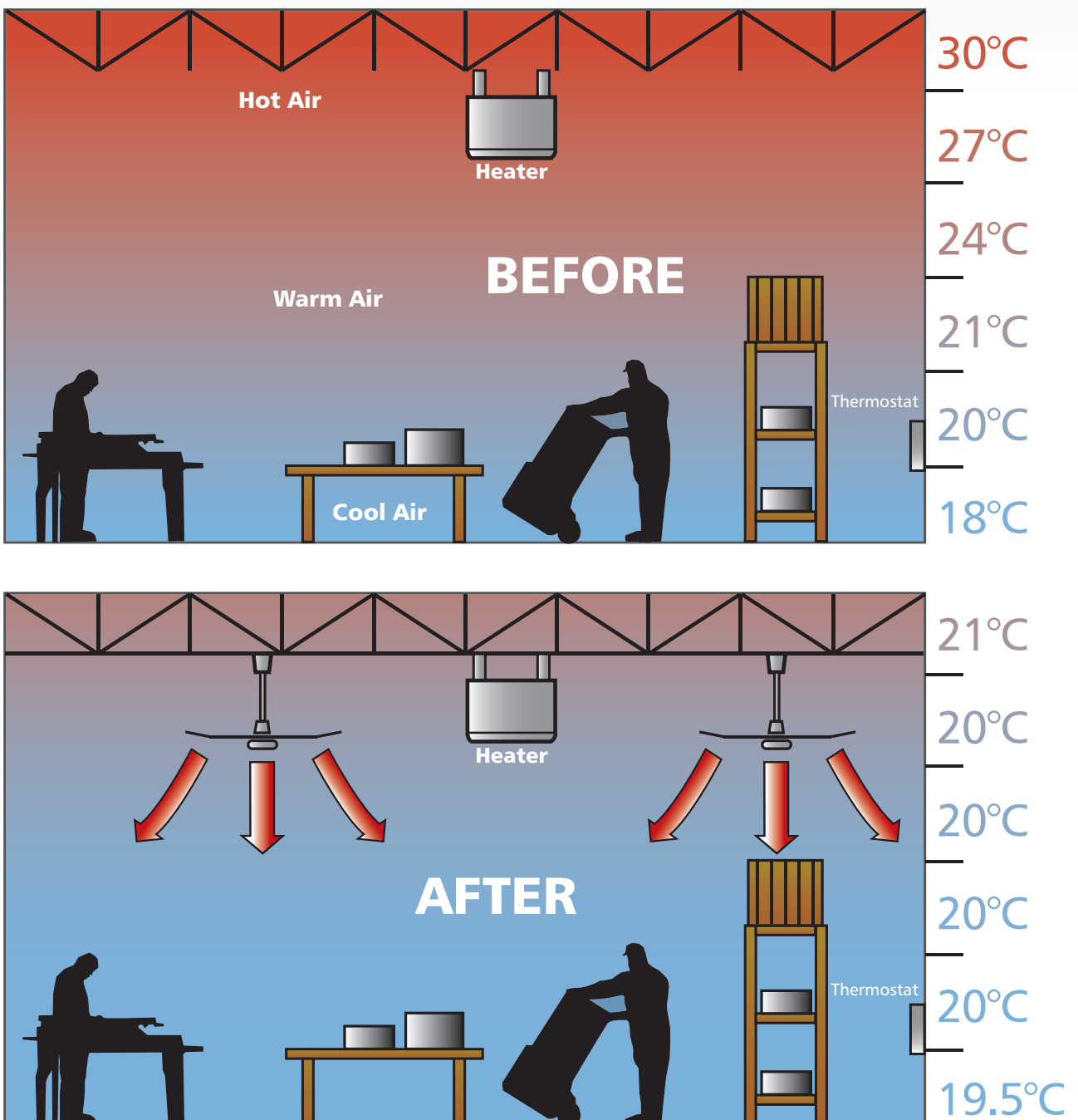
It's a simple concept - Common to us all – Heat Rises, and because it rises, it consistently builds up in the ceiling before it dissipates through the roof into the atmosphere, while floor temperatures remain relatively cool in the building.

The first drawing below illustrates a typical industrial warehousing or factory application, where a heating system is installed. As you can see from the drawing, before ceiling fans are installed, supplementary heat predictably rises to

the ceiling, reflected by the temperature at different heights within the building, whilst reducing workers comfort by being cooler despite the additional heating.

The second drawing shows that following the installation of ceiling fans, a more equal temperature distribution is achieved throughout the building by the positive air movement from the fans. This de-stratification of temperature layers not only improves the workers comfort and level of efficiency, it also reduces heating costs.

## De-stratification of heat in factory during winter



# Summer livestock cooling

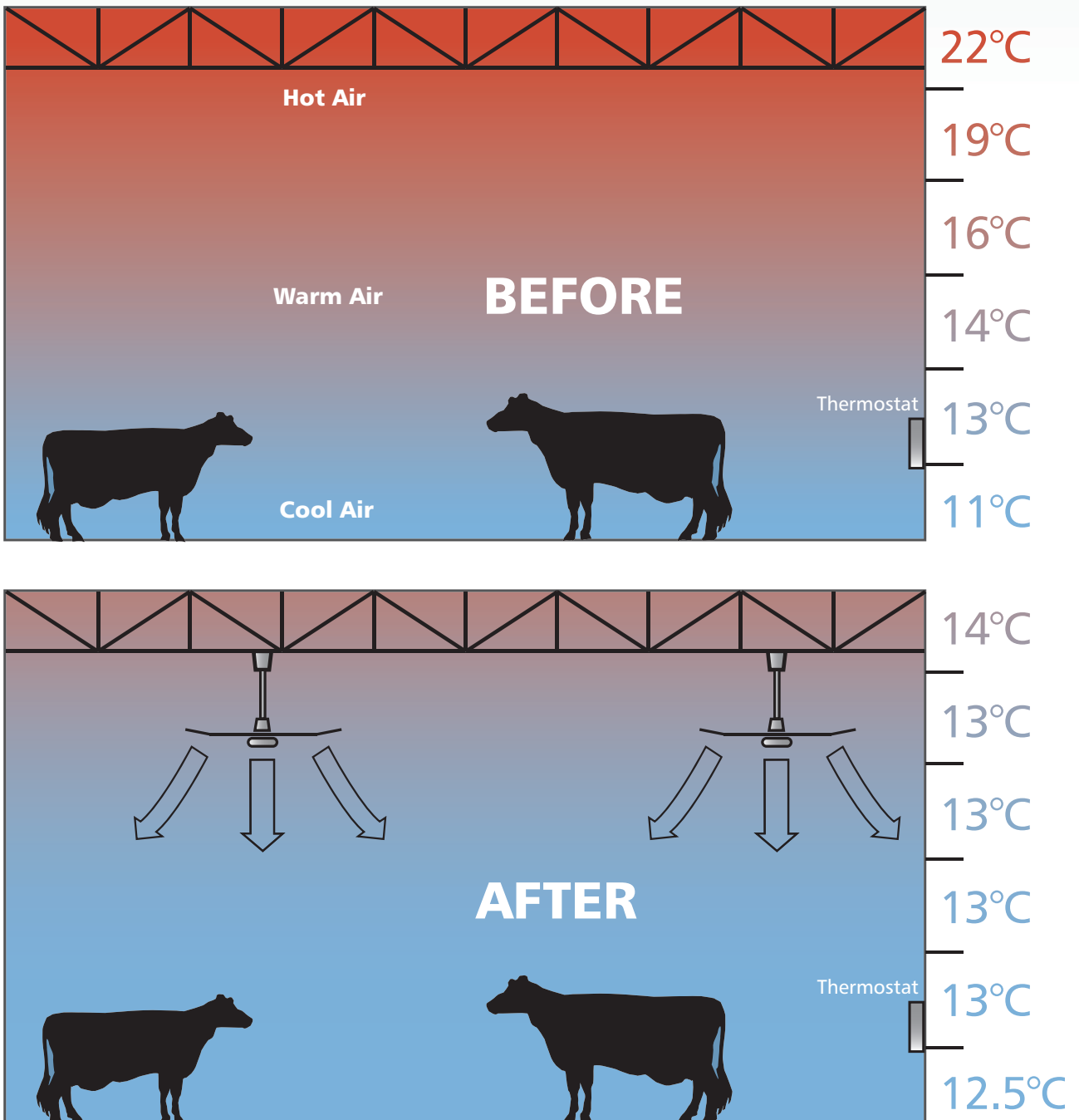
The first drawing below illustrates a typical dairy herd enclosure in the height of the summer months with no mechanical ventilation.

As you can see, before ceiling fans are installed, the warm, muggy air sits in the building, which creates uncomfortable conditions for the cattle, in particular, the warmer temperature can develop heat stress for the animals,

attracting flies as well, whilst creating an uncomfortable working environment for dairy workers.

By installing ceiling fans within the dairy enclosure, this provides positive air movement, equalising the temperature levels within the building during the summer for cattle and workers, with better cooling to minimise heat stress and discourage flies with the constant air circulation.

## Cooling of dairy herd building in summer





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