



hydor

dairy & beef

Hydor is dedicated to providing dairy farmers with products that keep the building and animals productive, efficient and healthy.

Hydor ventilation and air circulation equipment helps to ventilate the whole dairy farm housing facilities, including milking parlours, calf housing, bull accommodation and other confinement buildings.

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introduction

A comfortable cow is a happy and productive cow.

Hydor provide air circulation and ventilation products that ensure 'cow comfort', alleviating the effects of heat stress, which contributes to maintaining and increasing milk production levels.

As a dairy farmer, you want **top results from your herd**, so it's fundamental you get the very best results from the ventilation equipment you are investing in. Every aspect of a dairy farmer's working objectives are to **improve the effectiveness and production** of the dairy herd in order to maximise the bottom line. Ventilation and air circulation products play an important part for you, the farmer, in meeting these objectives and deserve careful thought to make sure you obtain the required results.

Having made the decision to limit hot weather inefficiencies and herd production losses by using air circulation fans, it makes sense to ensure you use fans that will not only perform at the level required, but in the most **cost effective** way possible. As an **established British manufacturer**, Hydor ventilation equipment is tested to the very latest standards, providing farmers with peace of mind. Hydor's reputation is built on performance and efficiency, combined with quality and reliability and a customer driven approach from initial enquiry, to after sales service, that is second to none.





what we do

The Hydor range of ventilation equipment for the dairy and beef sectors is specifically designed to enhance the quality of the environment in livestock buildings throughout the whole year.

Our ventilation and air circulation products consistently take away the moisture, heat and odours generated by dairy herds and replenish the supply of oxygen by bringing in cooler, drier air from outside the building. By providing the necessary air exchanges required, Hydor products remove harmful gases such as ammonia (NH_3), methane (CH_4) and Hydrogen Sulphide (H_2S) which benefits both the animals and farm workers.

Today's dairy cow is notably larger than those animals milked some thirty years ago or more, when a large proportion of existing cow housing was built. The deficiencies that have become apparent in housing systems, where cows reside for a considerable time of their lactation, can have an adverse effect on animal health, production and welfare.

The difficulty is compounded where dairy herd size is intensified without due consideration to increasing housing facilities, which signifies an even greater importance for ventilation.

Hydor air circulation fans and ventilation systems for dairy farms provide the amount of fresh air needed for cows, thereby diminishing heat stress and increasing production. The consequences of heat stress on dairy cows are widely understood to mean:

A reduction in feed intake due to discomfort.

An overall fall in the milk production levels - anywhere between 20-30%.

A greater vulnerability to clinical mastitis and other diseases such as pneumonia.

Lower fertility rates as well as additional reproductive problems such as increases in embryonic loss or a reduction in the weight of the calf at birth.

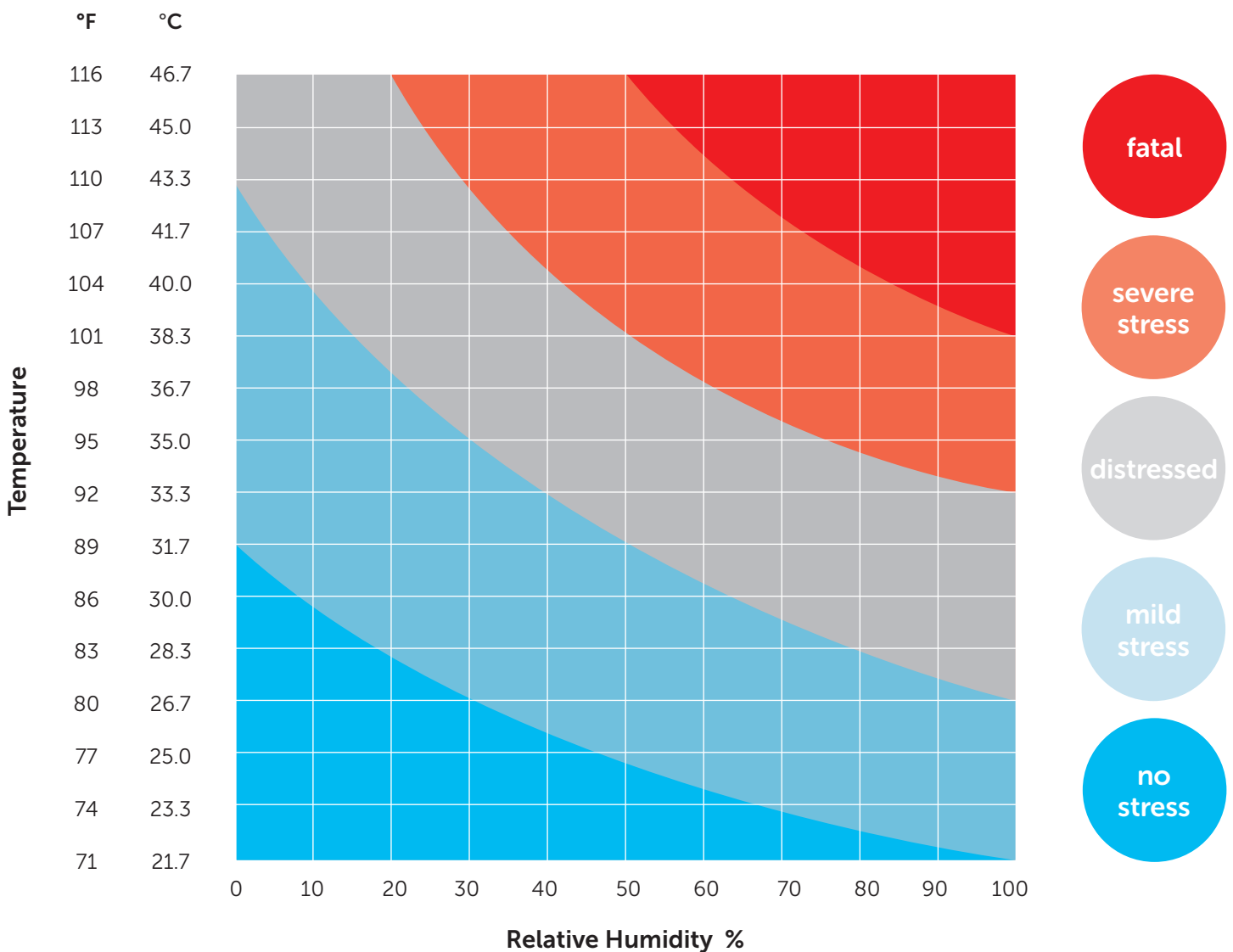


heat stress chart

Heat stress and the effect on the dairy herd are very prominent - in any farmers thinking. The body temperature of dairy cows can be influenced by air temperature, wind speed, radiant temperature and relative humidity.

The chart below provides a guideline illustration on the implications of temperature and humidity on stress levels for a cow.

By combating the adverse effects of heat stress, Hydor products ensure lower operating temperatures in dairy barns, resulting in significant increases in milk production. The additional profits through higher yields, combined with energy savings will enable Hydor fans to pay for themselves in a short period of time.



applications

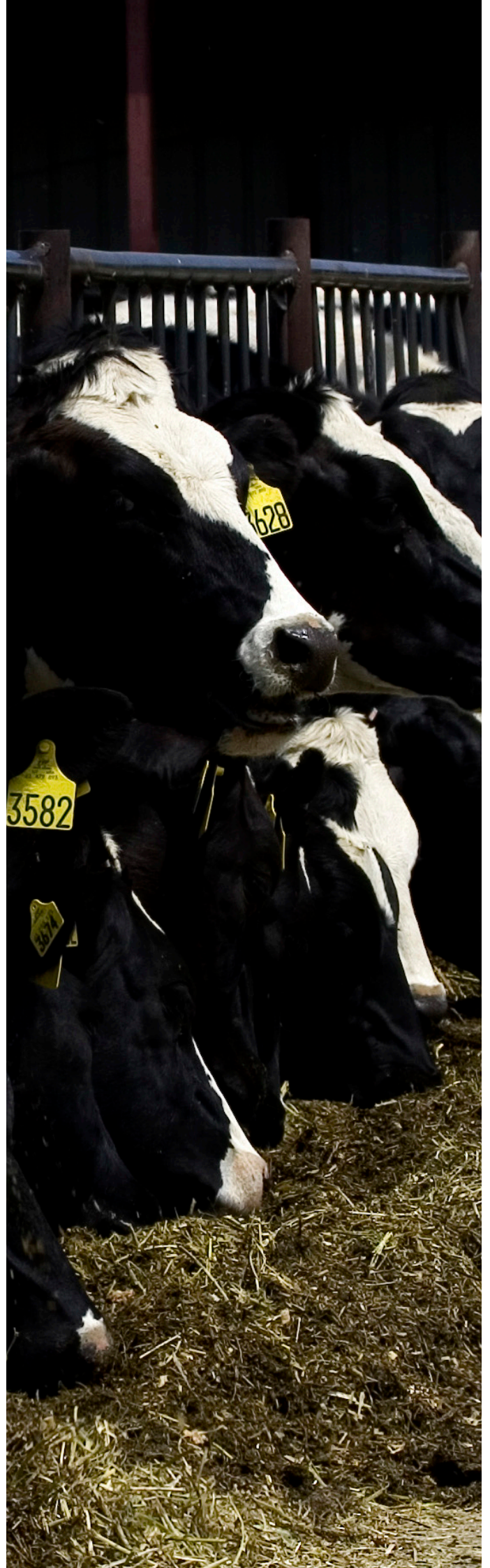
Hydor understands the farmers need for enough air volume, at a high enough velocity, to ensure a positive response from the dairy herd in the form of increased milk yield and greater breeding efficiency.

There are endless approaches to the mechanical ventilation design in dairy farming. For example, the precise number and location of fans required in a building would depend upon factors such as the density, construction, utilisation and local climatic conditions. However, the components of the ventilation system should accommodate winter and summer conditions, namely:

- A continuous minimum air exchange – This is required to remove the moisture constantly created by dairy cows, particularly during the colder, sub-freezing months of the year.
- Higher air exchange rates and air velocity across the cows during the hotter summer weather to remove excessive heat from the cows.

The drawings outlined in this brochure are merely intended to illustrate some typical approaches to providing ventilation solutions to dairy farmers for calf rearing, milking parlours or bull housing.

It is important to remember that there are many ways in which the ventilation criteria for you, the dairy farmer, can be met and it should not be assumed the examples in this brochure are the only ones. With more than 50 years experience in agricultural ventilation, we know a thing or two about farmers ventilation requirements for livestock – but our skill is matching your dairy ventilation needs with our extensive fan engineering capabilities.

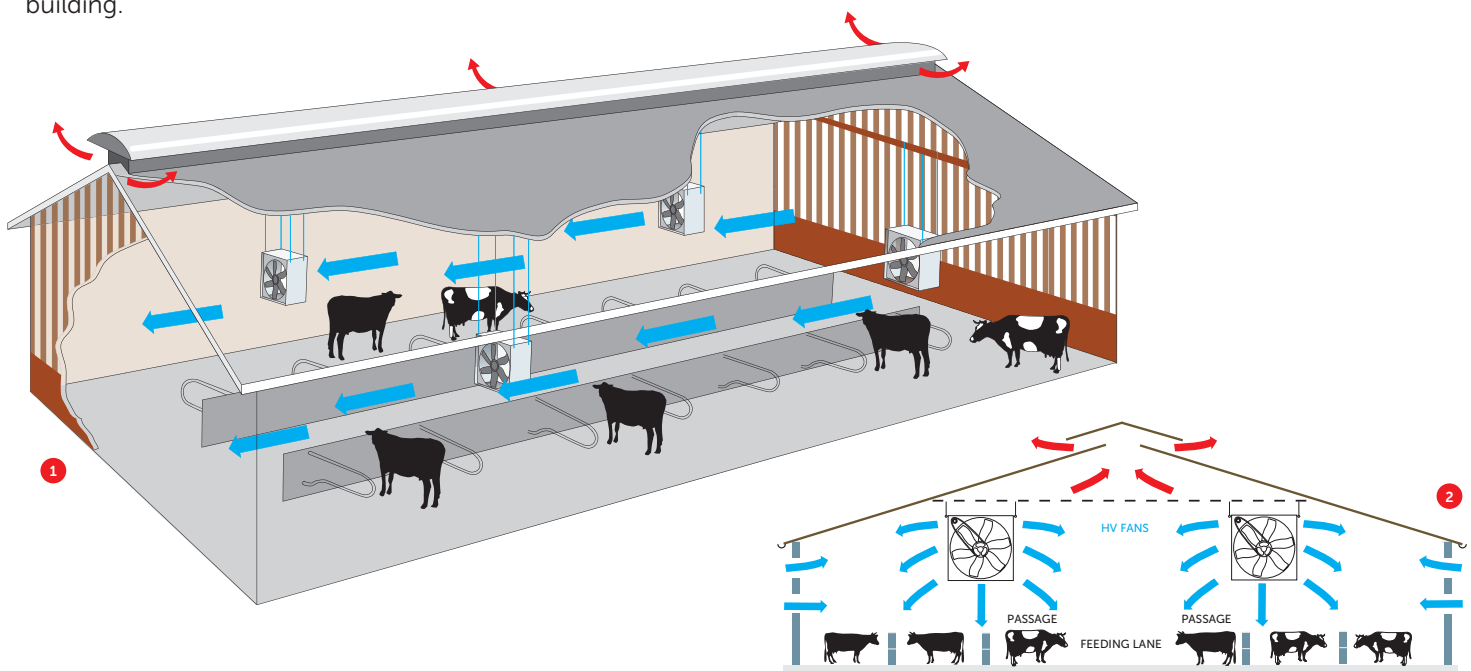


cow cubicle housing

With such a diversity in livestock housing arrangements, from two lines of cows facing each other, to several lines across the cow cubicle, these buildings are often large open areas that require air movement to assist cooling of animals in warm, hot, humid weather where slatted or open sides do not allow sufficient air to pass through the building. Fans would normally be suspended from the roof above the centre line of the dairy herd facing each other, angled slightly downwards to blow air across the animals. Hydor would particularly recommend the use of our HV Belt Drive fans for larger cow cubicle areas where large air volumes are required.

1 Illustrates a typical medium to large farm building accommodating dairy cows with feeding and individual resting cubicles. Air is drawn in through the slatted Yorkshire Boarding. The cows face each other with walls between them. The cows are in open stalls with steel framing.

2 Depicts a large cow cubicle building. Air is drawn in naturally through slatted sections at the side of the farm building.



applications

These can be small purpose built units, but are more often, poorly sited building conversions which require the addition of mechanical ventilation, to provide a continuous supply of fresh air into the calf housing.

Calf pens should provide clean, hygienic conditions, which minimise the risk of calf disease and promote positive growth rates, in a warm, dry, draught free building.

Adding mechanical ventilation can overcome potential airborne diseases in calves such as pneumonia, thereby reducing mortality rates, as well as reductions in veterinary bills. One of the most effective methods to mechanically ventilate a calf house is by installing a fan with a polythene duct air distribution system.

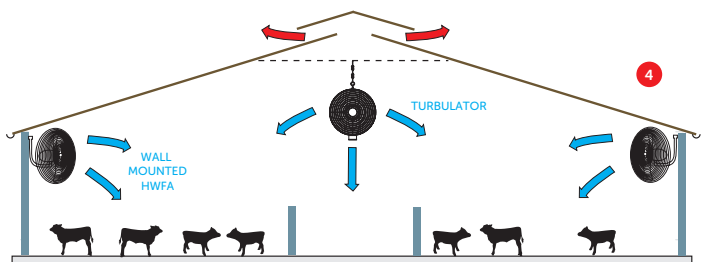
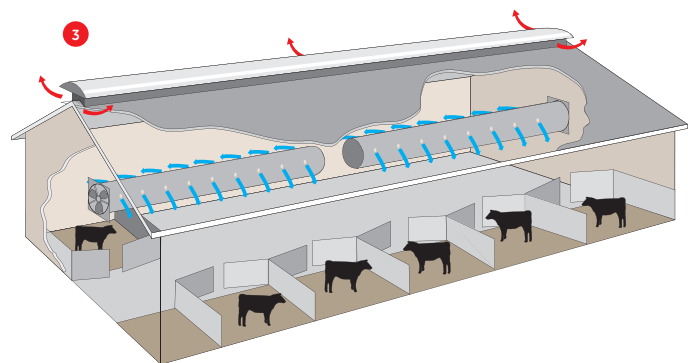
3 Depicts a typical installation for calf housing where Hydor HXP Fans are installed in the wall of the building and plastic ductwork is fitted directly to the fan, directing the airflow into the calf house. The Tube Ventilation System has holes cut into it along its length which enables the air to be dispersed evenly through the building. The precise length of ductwork, and the number and size of holes will determine the exact Hydor fan to be selected. Positioning fans at the gable end of the building, delivers fresh air from outside, which then forces the stale air outside.

4 Highlights two air circulation installations in a calf house that provide continuous air movement, either by the use of 'Turbulator' air circulation fans, located centrally in the calf house, or by the HWFA wall mounted fans.

Hydor's range of speed controllers ensure ventilation rates can be adjusted according to ambient temperatures. Hydor HWFA wall mounted fans can also be used by directing air around the calf house, providing positive air movement throughout the building.

Larger fan selections are beneficial where calf numbers increase, costing very little extra to install and providing greater air throughput; with the provision of a controller it can be turned down to meet daily ventilation requirements. Hydor suggest farmers keep fans running throughout the year, apart from extreme weather conditions, as this benefits the calves by maintaining positive air movement, ensuring a draught free environment with plenty of fresh air.

calf housing



beef cattle & bull housing

The housing requirements for beef cattle are primarily individual stalls or pens, often with plastered rooms for additional cleanliness. Bull confinement is normally a pre-requisite to overcome aggression that may otherwise exist between animals. Many existing farm buildings developed to cater for these animals suffer from 'still air', which often leads to respiratory problems amongst beef cattle unless proper ventilation is provided.

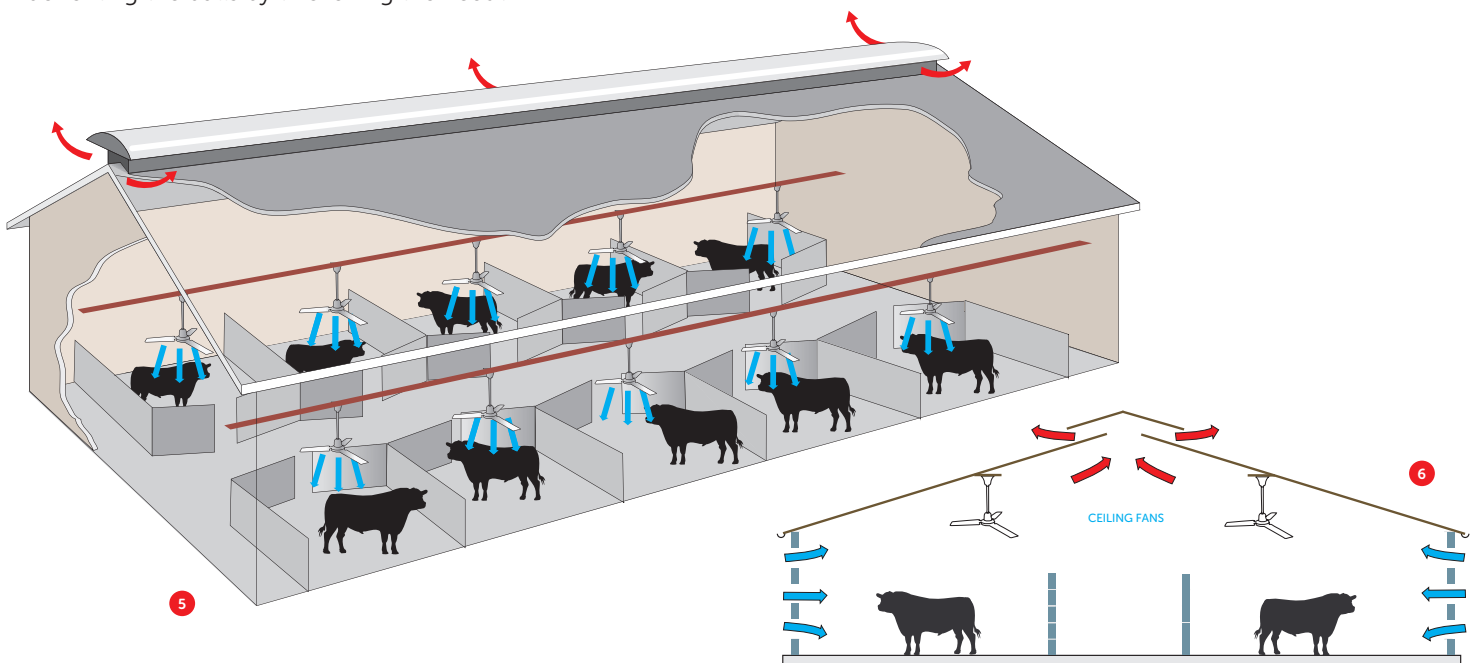
In order to overcome these issues, Hydor would advise the same principles as calf ventilation be applied, although more positive ventilation would be required due to the size of the animals.

The use of Hydor HXP fans or Turbulators where ductwork is installed would complement natural ventilation within the building.

Where buildings house both beef cattle and calves, the air should be forced away from the calves towards the beef cattle and not the other way around.



5 and 6 are a typical illustration of where bulls are individually housed in bull pen, and air is drawn in naturally. The bulls have air circulated across them through the use of HCF ceiling fans, which enhances comfort, as well as benefiting the bulls by thickening their coat.



applications

In terms of importance, the milking parlour needs particular attention and thought when a ventilation system is required. The importance is determined by the fact that farming staff, who may be milking a dairy herd for anything between nine or more hours a day, will experience quite different environmental comfort than the dairy cows. Although farm worker comfort is imperative in sustaining milking productivity, for optimum employee performance, the ventilation system within the parlour needs to satisfy the 'cow comfort' requirements first and foremost.

A large number of milking parlours can be particularly hot and humid throughout the summer months which is unsettling for dairy workers and appeals to a large number of flies. In addition to this, with the higher summer temperatures, each animal is producing in the region of 1 kW or more in heat.

Although most milking parlours will be ventilated naturally, the additional heat still has to be removed in an effective way. By introducing carefully selected ventilation and air circulation fans, Hydor products not only remove excessive heat but also enable evaporative cooling from wet surfaces in the parlour. In addition to this, the fans will significantly reduce the number of flies attracted to the parlour, since they dislike high air speeds, which in turn means the cows are more at ease in the parlour.



milking parlours



Evaporative cooling systems are of particular benefit when installed alongside a ventilation system in milking parlours, for preventing flies and insects which can encourage cows to kick and dislodge milking equipment.

Hydor would typically recommend, in those installations where ceiling height allows, to fit Turbulator air circulation fans which can be suspended from the ceiling at a height of approximately 2 metres higher than the pit floor in the parlour.

Ideally, Turbulators should be located near to the doorway, which allows fresh air to be brought in from the outside of the building, thereby blowing down the pit at cow udder level. It may well be that two or more Turbulator fans are required for milking parlours that are wider or longer, and the requirement for ductwork may be an additional consideration.

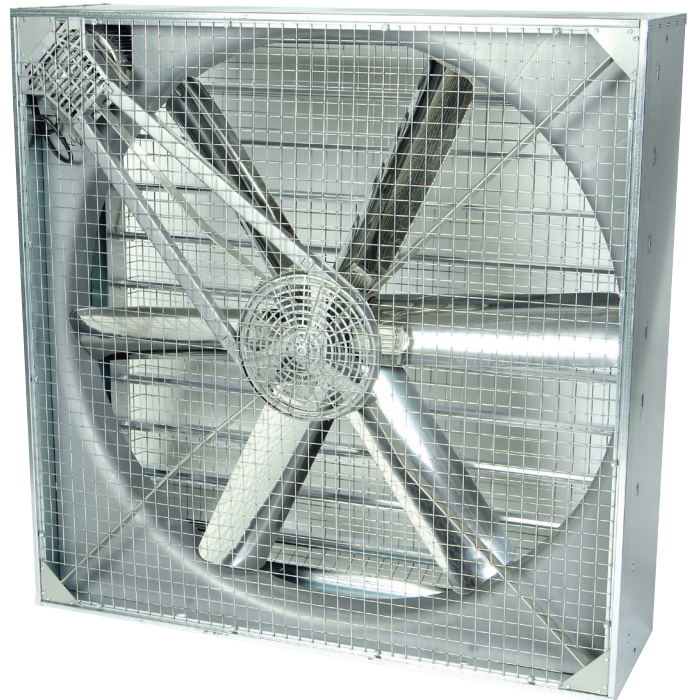
Where the ceiling height may be restricted, then the use of Hydor HWFA wall mounted fans would be recommended. These can be mounted along the outside parlour wall, blowing air across the parlour and in the course of the prevailing winds.

holding areas

Where there are a large number of cows standing in a congested area from 30 minutes to an hour or more before milking, ventilation and cooling of the animals is critical, primarily as a dairy cow's body temperature will rapidly rise to an uncomfortable level. The importance of moving large volumes of air over the cows when waiting is paramount to the success at the milking stage.

It is widely recommended by Hydor that the use of an evaporative cooling system, which can be mounted above the cows in the holding area, combined with the forced airflow from the fans will, to a great extent, enhance herd cooling during the warmer weather. Fans should be mounted above the cows, directing the airflow away from the milking parlour, positioned so they blow the air downwards and over the cow's back.

Hydor can recommend a wide variety of fan selections catered for the size of the holding area.



product selector

The product selector is designed to provide a simple overview of the products we offer for dairy & beef applications.

Minimum and maximum weights expressed based on fan diameter size range | HV Weights detailed include louvre | HXP Weights detailed are ring mounted models.



HV Belt Drive Fan

Product Code **HV**

Airflow m³/s **Up to 20.13**

Impellers **Stainless steel impeller blades (6 blades)**

Motors **Totally enclosed metric to IP55, Class F Insulation**

Ambient Operating Temperature **50°C**

Weight (kg) **44 - 100**

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Tube Ventilation System

Description **Supplies enough fresh air to all parts of the building to dilute the airborne pathogens and irritants to safe levels.**

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HTS Turbulator Recirculation Fan

Product Code **HTS**

Airflow m³/s **1.31 - 2.34**

Impellers **Adjustable pitch aerofoil impellers (6 blades)**

Motors **Weatherproofed to IP55, Class F Insulation**

Ambient Operating Temperature **50°C**

Weight (kg) **20 - 30**

pg 20



HXP Plate Fan

Product Code **HXP**

Airflow m³/s **Up to 5.45**

Impellers **Adjustable pitch aerofoil impellers (6 blades)**

Motors **Weatherproofed to IP55, Class F Insulation**

Ambient Operating Temperature **70°C**

Weight (kg) **15 - 35**

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HPFA Pedestal Fan

Product Code **HPFA**

Airflow m³/s **Up to 3.83**

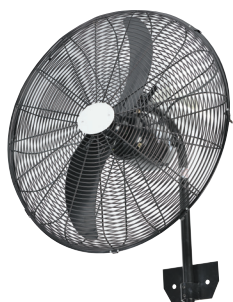
Impellers **High quality aluminium, Epoxy powder coated (2 Blades)**

Motors **High performance motors**

Ambient Operating Temperature **45°C**

Weight (kg) **23**

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HWFA Wall Fan

pg 25

Product Code **HWFA**

Airflow m³/s **Up to 3.83**

Impellers **High quality aluminium, Epoxy powder coated (2 Blades)**

Motors **High performance motors**

Ambient Operating Temperature **45°C**

Weight (kg) **14.3**



HCF Ceiling Fan

pg 26

Product Code **HCF**

Airflow m³/s **Up to 3.92**

Impellers **Pressed steel, Epoxy powder coated (3 Blades)**

Motors **Capacitor start and run motor, Class E Insulation**

Ambient Operating Temperature **40°C**

Weight (kg) **4 - 5**



Evaporative Cooling System

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Pump Litre/hr **760/1500**

Description **A multi-jet bespoke high pressure evaporative cooling system designed to suit various applications. Using micro-misting nozzles to eliminate droplets. Supplied through a 12mm pipe. Easy installation.**

Nozzle Output Litre/hr **0.2 nozzle = 4 Litres/hr | 0.3 nozzle = 6 Litres/hr**



HRH Radiant Heater

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Product Code **HRH**

Heat Output (kW) **30.3 - 45.5**

Construction **Aluminium reflector and Calorised-Aluminium coated steel emitter tube. Infra-red heat. Various heat outputs. Protected to IP55 (waterproof). Economic to run.**

Dimensions (mm) **1000 - 16000**

Weight (kg) **62 - 96**

conversions

volume

1 m³/hr = 0.00028 m³/s = 0.278 L/s = 0.589 CFM

pressure

1" WG = 249.1 Pa

velocity

1 m/s = 196.85 ft/min

power

1 Hp = 0.746 kW

HV Belt Drive Fan

The Hydor HV Belt Drive fan unit is specifically designed to ventilate larger buildings where substantial amounts of air are moved at low pressure with minimal energy consumption.

The HV range is available in six versions and five sizes; 800mm, 1000mm, 1250mm 1.1kW, 1250mm 1.5kW, 1500mm and 2000mm diameter, each with single or three phase motors and the option of louvres and guards. This powerful fan produces air volumes up to 20m³/s. Constructed from galvanised steel with a specially designed stainless steel impeller, these fans are extremely hard wearing and robust in application. The drive mechanism includes sealed for life maintenance free ball bearings, which means low noise and vibration levels. The HV range is available in three variations; wall mounting with shutters, suspension mounting from the roof space or floor mounting with wheels. The HV range are supplied fully assembled with internal and external safety guards or a centrifugal operated backdraught shutter on the external side.



SINGLE Phase

220V to 240V / 50Hz

| | Speed (r/min) | Airflow m ³ /s @ Static Pressure (Pa) | | | | | | Power (kW) | FLC (Amps) | Start (Amps) | dBA @ 3m |
|------------------|------------------|--|--------|--------|-------|-------|-------|---------------|---------------|-----------------|-------------|
| | | 0 | 20 | 40 | 60 | 80 | 100 | | | | |
| HV800 | 630 | 4.588 | 4.091 | 3.589 | 2.840 | - | - | 0.75 | 4.5 | 14.3 | 58 |
| HV1000 | 520 | 7.096 | 6.447 | 5.550 | 4.296 | 3.139 | 1.827 | 0.75 | 5.4 | 14.9 | 59 |
| HV1250 (1.1kW) | 400 | 11.002 | 9.578 | 8.030 | 6.190 | 4.028 | - | 1.1 | 7.2 | 25.7 | 60 |
| HV1250 H (1.5kW) | 440 | 12.104 | 10.863 | 9.465 | 7.866 | 5.746 | 3.189 | 1.5 | 8.4 | 29.5 | 63 |
| HV1500 | 360 | 12.828 | 11.360 | 9.503 | 6.815 | - | - | 1.5 | 9.4 | 33.0 | 61 |
| HV2000 | 280 | 20.137 | 16.539 | 12.970 | 7.639 | - | - | 1.5 | 10.0 | 35.0 | 59 |

Measurement category used to determine energy efficiency: A. FLC Amps @ 230V / 1Ph / 50Hz.

THREE Phase

400V / 50Hz

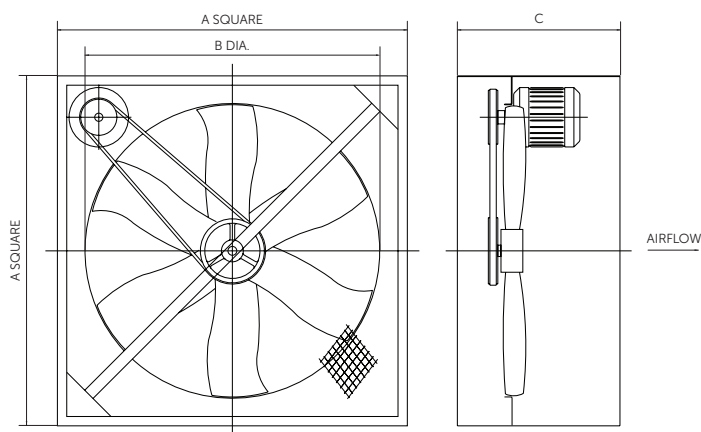
| | Speed (r/min) | Airflow m ³ /s @ Static Pressure (Pa) | | | | | | Power (kW) | FLC (Amps) | Start (Amps) | dBA @ 3m |
|------------------|------------------|--|--------|--------|-------|-------|-------|---------------|---------------|-----------------|-------------|
| | | 0 | 20 | 40 | 60 | 80 | 100 | | | | |
| HV800 | 630 | 4.588 | 4.091 | 3.589 | 2.840 | - | - | 0.75 | 2.0 | 5.9 | 58 |
| HV1000 | 520 | 7.096 | 6.447 | 5.550 | 4.296 | 3.139 | 1.827 | 0.75 | 2.6 | 7.8 | 59 |
| HV1250 (1.1kW) | 400 | 11.002 | 9.578 | 8.030 | 6.190 | 4.028 | - | 1.1 | 2.9 | 8.7 | 60 |
| HV1250 H (1.1kW) | 450 | 11.356 | 10.208 | 8.839 | 7.139 | 4.947 | 2.216 | 1.1 | 3.0 | 6.8 | 62 |
| HV1500 | 360 | 12.828 | 11.360 | 9.503 | 6.815 | - | - | 1.5 | 3.6 | 10.8 | 61 |
| HV2000 | 280 | 20.137 | 16.539 | 12.970 | 7.639 | - | - | 1.5 | 3.8 | 12.5 | 59 |

Measurement category used to determine energy efficiency: A. FLC Amps @ 400V / 3Ph / 50Hz.
Note: Motor electrical data is approximate, as it varies from one motor manufacturer to another

IP55
protection

50°C
temperature

dimensional drawing



features and benefits

- Free standing air circulation fan
- Ideal for industrial, commercial and agricultural applications
- Extracts stale and humid air from the building
- Fitted with a mesh safety guard on both sides
- 3 step speed switch for increased energy
- Single phase 220V to 240V 50Hz
- Three phase 380V to 440V 50Hz

| dimensions | A | B | C | Depth inc Louvre | Depth inc Louvre & Guard | Weight (kg) | Weight inc Louvre (kg) |
|------------------|------|------|-----|------------------|--------------------------|-------------|------------------------|
| HV800 | 960 | 800 | 330 | 405 | 470 | 32 | 44 |
| HV1000 | 1150 | 1000 | 330 | 405 | 470 | 40 | 50 |
| HV1250 (1.1kW) | 1380 | 1250 | 330 | 405 | 470 | 50 | 70 |
| HV1250 H (1.1kW) | 1380 | 1250 | 330 | 405 | 470 | 50 | 70 |
| HV1250 H (1.5kW) | 1380 | 1250 | 330 | 405 | 470 | 52 | 72 |
| HV1500 | 1495 | 1350 | 430 | 430 | 500 | 55 | 85 |
| HV2000 | 1930 | 1760 | 450 | 450 | 515 | 75 | 100 |

Dimensions in mm.

| accessories | 1Ø 3 Step Speed Controller | 1Ø DOL Starter | 3Ø DOL Starter | Blackout Filter | HV Wall Cowl | Fixed Intake Weather Louvre with Guard | | |
|------------------|----------------------------|----------------|----------------|-----------------|--------------|--|--------|------------|
| | | | | | | Mill | Paint | Watertight |
| HV800 | FC0149-TC110HV | 004828 | 003644 | 000295 | HVWC800 | 003316 | 003320 | 004625 |
| HV1000 | FC0149-TC110HV | 004828 | 004726 | 000301 | HVWC1000 | 003317 | 003321 | 004626 |
| HV1250 (1.1kW) | FC0149-TC110HV | 004831 | 003645 | 000310 | HVWC1250 | 003318 | 003322 | 004627 |
| HV1250 H (1.1kW) | - | - | 003645 | 000310 | HVWC1250 | 003318 | 003322 | 004627 |
| HV1250 H (1.5kW) | FC0149-TC112HV | 004834 | - | 000310 | HVWC1250 | 003318 | 003322 | 004627 |
| HV1500 | FC149-TC116HV | 004833 | 004296 | - | HVWC1500 | - | - | - |
| HV2000 | - | 004833 | 004296 | - | HVWC2000 | 003319 | 003323 | 004628 |

Tube Ventilation System

Hydor's Tube Ventilation System supplies fresh air to all parts of the building to dilute airborne pathogens and irritants. This system is particularly suitable for livestock buildings, especially calf houses.

Extending through the length of the shed above animal height the system provides a constant, positive supply of fresh air to the animal's immediate location, diluting foul air and ensuring even temperatures irrespective of outside weather conditions.

Dust, cobwebs, condensation, humid atmosphere and damp beds are all a precursor to disease and health problems, furthermore a lack of adequate ventilation leads to a build up of ammonia and microorganisms. The Tube Ventilation System has been proven to reduce cases of pneumonia in livestock as a result of damp and humid air conditions.



features and benefits

- Positive air movement
- Air distribution to the animals immediate environment
- Reduced cases of pneumonia due to improved air quality and even temperature
- Simple installation
- Low running costs
- Up to 34metre [100feet] tube with holes positioned according to customer's requirements

technical

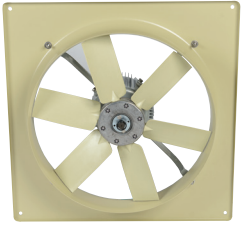
A 34metre [100feet] x 14metre [45feet] shed would require a 630mm fan, regardless of shed size.

A 24metre [80feet] x 10metre [34feet] shed would require a 450mm fan depending on the number of animals housed.*

system components

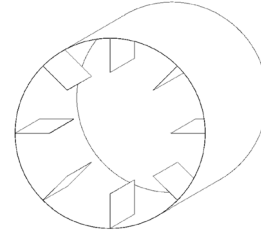
- Hydor HXP Plate Fan
- Plastic external weather cowl complete with integral bird mesh
- Rigid downstream duct/air straightener
- Catenary wire complete with tensioning turnbuckles
- Up to 34metre [100feet] tube with holes.
- Variable speed Inverter control housed in an IP65 enclosure

*The above is for guidance only. Please contact Hydor for advice on your specific requirement.



HXP Plate Fan

High efficiency fan designed to pass high volumes of air with minimum use of energy.



Air Straightener

For increased air throw.



Wall Cowl with Bird Mesh

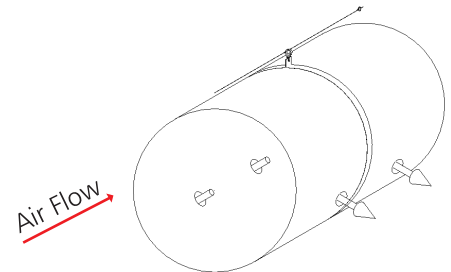
Allows air intake whilst preventing inlet of other kinds (e.g. rain, birds).



Inverter Controller

Variable speed controller for use with 220V to 240V 1Ph 50Hz supply.

Max Length 100ft (630mm)
80ft (450mm)



Tube System

The tube hangs from a catenary wire which extends along the length of the shed, from wall to wall.

Air flows into the tube, and is distributed along the shed through holes at the four and eight o'clock positions along the tube as shown.

For more information about our **Tube Ventilation System** please contact us.

HTS Turbulator Recirculation Fan

The Turbulator range of recirculation fans provide a constant airflow and are suitable for all year round ventilation, removing condensation and providing evenness of temperature and humidity throughout a wide variety of agricultural and horticultural buildings.

Designed to circulate air using minimal power consumption, thereby offering a swift payback period.

The range also includes a stainless steel model for more corrosive environments.

Hydor's capabilities in manufacturing and design extend well beyond this, enabling us to provide any additional sizes or bespoke requirements you may have, such as Turbulators with integrated heaters and controls.



key features

- Control of insects in the summer months – many insects and flies are discouraged by the constant airflow created by the circulating fans
- Provides a reduction in livestock heat stress, thereby reducing veterinary expenses
- Air circulation results in improved root growth and a healthier plant in horticulture applications
- Improved evaporation of moisture in the air eliminates condensation on walls and ceilings in winter
- Air circulation moves fumes away from animals, circulating gases to a higher level for extraction at roof level
- Ceiling mounted, provides optimum coverage at any angle
- Disperses dust
- Offers precise environmental control and an improved environment for workers
- Built to withstand challenging, humid and corrosive conditions

IP55
protection

50°C
temperature

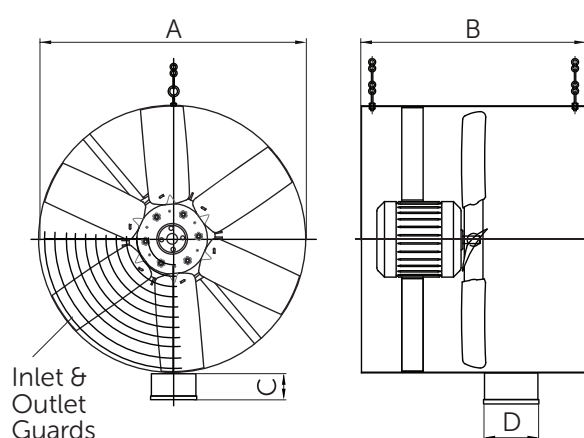
| product information | Diameter (mm) | Speed (r/min) | Airflow (m ³ /s) | Throw (metres) | dBA @ 3m | Power (kW) | FLC (Amps) |
|---------------------|---------------|---------------|-----------------------------|----------------|----------|------------|------------|
| HTS450 | 450 | 1360 | 1.31 | 23.4 | 64 | 0.545 | 2.31 |
| HTS500 | 500 | 945 | 1.21 | 19.7 | 57 | 0.280 | 1.33 |
| HTS630 | 630 | 945 | 2.34 | 22.5 | 64 | 0.721 | 3.15 |

Alu-Zinc casing as standard. Stainless steel upon request.

Throw termination @0.5m/s.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20μPa and is presented for comparative purposes only.

dimensional drawing



features and benefits

- 3 sizes from 450mm to 630mm diameter
- Suitable for 230V single phase supply
- Rust resistant air straightener for long axial air throw
- Full range of thermostats and speed controllers available
- Lightweight motors
- Non-corrosive plastic impellers for a long service life
- Rust resistant powder coated wire guards
- IP55 rated Junction Box and 3 metre cable with 3 pin plug
- Electronic or manual thermostats available
- Alu-Zinc or stainless steel casings
- Suspension eyes and chain for ease of mounting
- 12 months product warranty

| dimensions | A | B | C | D | Weight (kg) |
|------------|-----|-----|----|-----|-------------|
| HTS450 | 460 | 440 | 75 | 115 | 20 |
| HTS500 | 510 | 440 | 70 | 115 | 19 |
| HTS630 | 660 | 630 | 70 | 115 | 30 |

Dimensions in mm.

| accessories | Inverter Controller | Mechanical Thermostat HS1 | Electronic Thermostat HP11W |
|-------------|---------------------|---------------------------|-----------------------------|
| HTS450 | 007828 | 003306 | 002371 |
| HTS500 | 007827 | 003306 | 002371 |
| HTS630 | 007828 | 003306 | 002371 |

HXP Plate Fan

With a heavy duty construction the HXP range is a modern, high quality, hard working range of agricultural propeller fans designed to pass large volumes of air with higher efficiencies to conform to current European ErP legislation.

A common component in milking parlours, calf housing and beef cattle housing the standard HXP range is available from stock for swift delivery in both single phase and three phase variants. Hydor HXP Fans boast a highly efficient and robust motor suitable for speed control, with proven reliability for long life and trouble free operation. An excellent all round unit.



SINGLE Phase

220V to 240V / 50Hz

| | Speed (r/min) | Airflow m ³ /s @ Static Pressure (Pa) | | | | | | Overall Eff. % | FMEG | Input (kW) | FLC (Amps) | dBA @ 3m |
|-----------|---------------|--|-------|-------|-------|-------|-----|----------------|------|------------|------------|----------|
| | | 0 | 25 | 50 | 75 | 100 | 150 | | | | | |
| HXP45041# | 1347 | 1.835 | 1.725 | 1.582 | 1.419 | 1.256 | | 32.1 | N40 | 0.416 | 1.91 | 54 |
| HXP45061# | 962 | 1.329 | 1.190 | 0.996 | | | | 29.3 | N40 | 0.184 | 0.85 | 48 |
| HXP50041# | 1379 | 2.204 | 2.097 | 1.968 | 1.813 | 1.626 | | 32.8 | N40 | 0.543 | 2.53 | 57 |
| HXP50061# | 954 | 1.623 | 1.463 | 1.257 | 0.941 | | | 35.0 | N45 | 0.206 | 0.91 | 45 |
| HXP63061# | 924 | 3.365 | 3.163 | 2.934 | 2.677 | 2.355 | | 37.0 | N44 | 0.654 | 3.12 | 52 |
| HXP71061# | 913 | 3.982 | 3.675 | 3.294 | 2.784 | | | 32.6 | N40 | 0.663 | 3.11 | 59 |
| HXP80061# | 914 | 5.450 | 4.989 | 4.544 | 4.073 | 3.477 | | 36.3 | N42 | 0.963 | 4.22 | 62 |

Data in accordance with ErP 327/2011 of the European Parliament. Measurement category used to determine energy efficiency: A. FLC Amps @ 230V / 1Ph / 50Hz. # Add A or B for airflow when ordering.

THREE Phase

380V to 415V / 50Hz

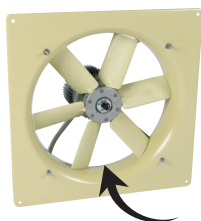
| | Speed (r/min) | Airflow m ³ /s @ Static Pressure (Pa) | | | | | | Overall Eff. % | FMEG | Input (kW) | FLC (Amps) | dBA @ 3m |
|-----------|---------------|--|-------|-------|-------|-------|-------|----------------|------|------------|------------|----------|
| | | 0 | 25 | 50 | 75 | 100 | 150 | | | | | |
| HXP45043# | 1435 | 1.850 | 1.754 | 1.647 | 1.526 | 1.387 | 1.037 | 36.3 | N44 | 0.433 | 1.08 | 57 |
| HXP45063# | 945 | 1.276 | 1.111 | 0.904 | | | | 29.5 | N40 | 0.163 | 0.64 | 48 |
| HXP50043# | 1372 | 2.701 | 2.569 | 2.431 | 2.281 | 2.111 | 1.616 | 34.6 | N41 | 0.712 | 1.36 | 57 |
| HXP50063# | 926 | 1.654 | 1.469 | 1.246 | 0.879 | | | 33.4 | N44 | 0.211 | 0.68 | 44 |
| HXP56043# | 1322 | 3.344 | 3.175 | 2.996 | 2.810 | 2.614 | 2.134 | 35.6 | N42 | 0.916 | 1.60 | 57 |
| HXP56063# | 872 | 2.254 | 1.985 | 1.689 | | | | 31.5 | N41 | 0.294 | 0.74 | 46 |
| HXP63063# | 912 | 3.323 | 3.010 | 2.689 | 2.301 | | | 36.6 | N44 | 0.493 | 1.21 | 53 |
| HXP63083# | 688 | 2.233 | 1.826 | 1.296 | | | | 29.7 | N40 | 0.222 | 0.77 | 46 |
| HXP71063# | 862 | 4.498 | 4.138 | 3.678 | 3.117 | | | 35.4 | N42 | 0.689 | 1.41 | 58 |
| HXP80063# | 896 | 5.042 | 4.620 | 4.177 | 3.687 | 3.007 | | 42.0 | N49 | 0.724 | 1.54 | 61 |

Data in accordance with ErP 327/2011 of the European Parliament. Measurement category used to determine energy efficiency: A. FLC Amps @ 400V / 3Ph / 50Hz. # Add A or B for airflow when ordering.

A airflow



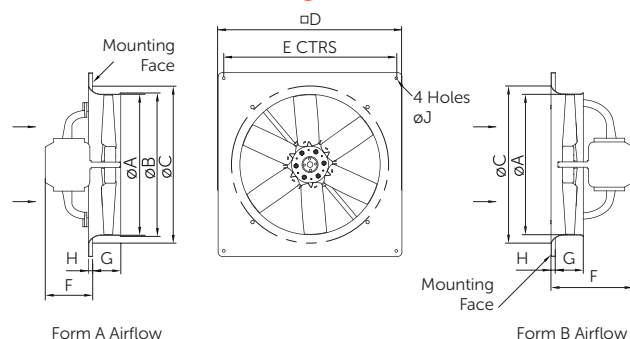
B airflow



IP55
protection

70°C
temperature

dimensional drawing



features and benefits

- 6 sizes from 450mm to 800mm diameter
- Robust construction incorporating GRP aerofoil impeller
- High volume air movement
- Optional motor / propeller side guards
- ErP compliant
- Quick and easy installation
- Two year extended warranty available on motors
- Cool-running motors constructed with a finned aluminium casing to give excellent heat dissipation and increased lifecycle

dimensions

| | A | B | C | D | E | F(A) | F(B) | G | H | J | Weight (kg) |
|----------|-----|-----|-----|-----|-----|------|------|-----|----|----|-------------|
| HXP45041 | 450 | 462 | 500 | 575 | 535 | 157 | 269 | 95 | 15 | 10 | 15 |
| HXP45043 | 450 | 462 | 500 | 575 | 535 | 186 | 199 | 95 | 15 | 10 | 15 |
| HXP45061 | 450 | 462 | 500 | 575 | 535 | 173 | 186 | 95 | 15 | 10 | 15 |
| HXP50041 | 500 | 512 | 560 | 655 | 615 | 182 | 305 | 100 | 15 | 10 | 19 |
| HXP50043 | 500 | 512 | 560 | 655 | 615 | 182 | 305 | 100 | 15 | 10 | 19 |
| HXP50061 | 500 | 512 | 560 | 655 | 615 | 169 | 293 | 100 | 15 | 10 | 20 |
| HXP50063 | 500 | 512 | 560 | 655 | 615 | 169 | 293 | 100 | 15 | 10 | 20 |
| HXP56043 | 560 | 577 | 620 | 725 | 670 | 182 | 321 | 100 | 15 | 10 | 22 |
| HXP63061 | 630 | 647 | 700 | 805 | 750 | 189 | 328 | 105 | 20 | 10 | 30 |
| HXP63063 | 630 | 647 | 700 | 805 | 750 | 189 | 328 | 105 | 20 | 10 | 30 |
| HXP63083 | 630 | 647 | 700 | 805 | 750 | 187 | 326 | 105 | 20 | 10 | 30 |
| HXP71061 | 710 | 725 | 765 | 850 | 810 | 204 | 341 | 103 | 27 | 10 | 30 |
| HXP71063 | 710 | 725 | 765 | 850 | 810 | 191 | 328 | 103 | 27 | 10 | 30 |
| HXP80061 | 800 | 817 | 880 | 973 | 910 | 202 | 353 | 105 | 30 | 10 | 35 |
| HXP80063 | 800 | 817 | 880 | 973 | 910 | 202 | 354 | 105 | 30 | 10 | 35 |

Dimensions in mm.

accessories

| | Plastic Louvre Shutters | Single Phase Electronic Controller | Single Phase Transformer Voltage Controller | Three Phase Transformer Voltage Controller (5 Step) |
|----------|-------------------------|------------------------------------|---|---|
| HXP4504# | HLVS450 | HFC3.0 | TC014 | TC033 |
| HXP4506# | HLVS450 | HFC1.7 | TC012 | TC033 |
| HXP5004# | HLVS500 | HFC3.0 | TC014 | TC035 |
| HXP5006# | HLVS500 | HFC1.7 | TC012 | TC033 |
| HXP5604# | HLVS560 | - | - | TC033 |
| HXP5606# | HLVS560 | HFC1.7 | TC012 | TC033 |
| HXP6306# | HLVS630 | HFC6.0 | TC014 | TC033 |
| HXP6308# | HLVS630 | - | - | TC033 |
| HXP7106# | - | HFC6.0 | TC014 | TC033 |
| HXP8006# | - | HFC6.0 | TC018 | TC033 |

HPFA Pedestal Fan

90°
turning arc

45°C
temperature

The Hydor HPFA Pedestal air circulation fans are designed for use in a wide variety of dairy applications.

Pedestal fans provide the benefit of local cooling for staff, for example staff rest rooms, workshops and larger offices.

Whether it is for your dairy herd or staff, Hydor pedestal fans provide powerful, cool, yet effective, positive air movement, thereby improving the environmental conditions for both humans and animals.

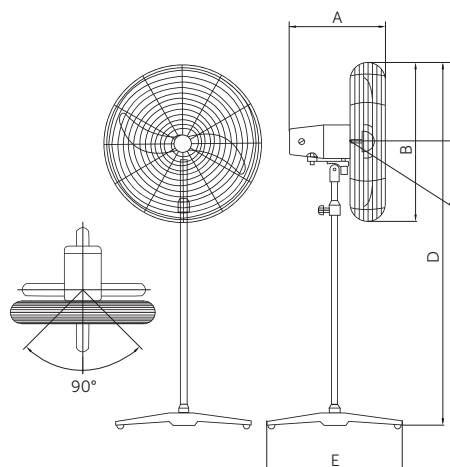
features and benefits

- Free standing air circulation fan
- Ideal for industrial, commercial and agricultural applications
- Adjustable height and airflow direction
- 3 speed settings
- Black meshed guard for protection
- Single phase 220V to 240V 50Hz



| product information | Speed (r/min) | Airflow (m³/s) | Power (W) | FLC (Amps) | dBA @ 3m | Maximum Tilt | Weight (kg) |
|---------------------|---------------|----------------|-----------|------------|----------|--------------|-------------|
| HPFA650 Low | 890 | 1.83 | 130 | 0.56 | 46 | 30° | 23 |
| HPFA650 Med | 1050 | 2.83 | 140 | 0.62 | 50 | 30° | 23 |
| HPFA650 High | 1380 | 3.83 | 170 | 0.80 | 59 | 30° | 23 |

dimensional drawing



dimensions

| | A | B | C | D | E |
|------|-----|-----|-----|---------------------|-----|
| HPFA | 360 | 690 | 30° | 1460-1860 (min-max) | 525 |

Dimensions in mm

HWFA Wall Fan

90°
turning arc

45°C
temperature

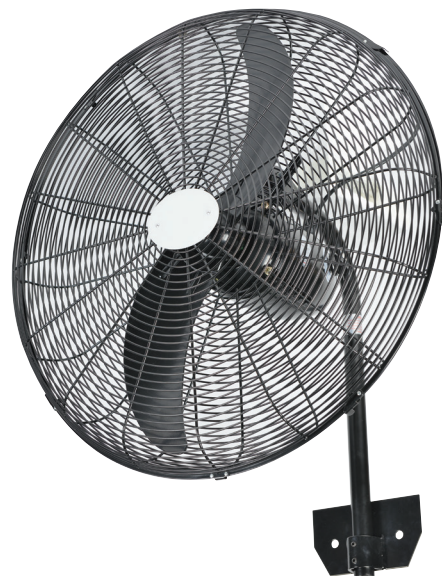
The Hydor HWFA Wall mounted air circulation fans are designed for use in a wide variety of dairy applications.

Wall mounted units are highly suitable for mounting in milking parlours, holding areas and calf housing.

Whether it is for your dairy herd or staff, Hydor wall mounted fans provide powerful, cool, yet effective, positive air movement, thereby improving the environmental conditions for both humans and animals.

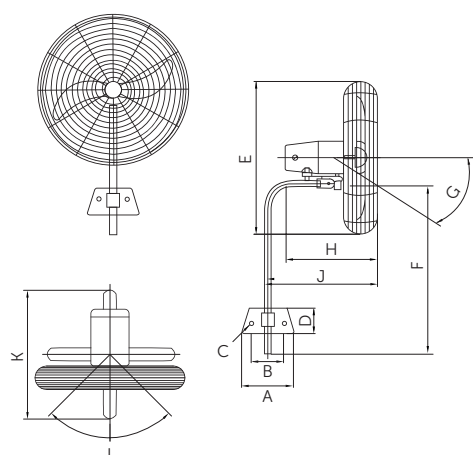
features and benefits

- Wall mounted air circulation fan
- Ideal for industrial, commercial and agricultural applications
- Adjustable airflow direction
- 3 speed settings
- Black meshed guard for protection
- Single phase 220V to 240V 50Hz



| product information | Speed (r/min) | Airflow (m ³ /s) | Power (W) | FLC (Amps) | dBA @ 3m | Maximum Tilt | Weight (kg) |
|---------------------|------------------|--------------------------------|--------------|---------------|-------------|-----------------|----------------|
| HWFA650 Low | 890 | 1.83 | 130 | 0.56 | 46 | 30° | 14.3 |
| HWFA650 Med | 1050 | 2.83 | 140 | 0.62 | 50 | 30° | 14.3 |
| HWFA650 High | 1380 | 3.83 | 170 | 0.80 | 59 | 30° | 14.3 |

dimensional drawing



dimensions

| | A | B | C | D | E | F | G | H | J | K | L |
|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| HWFA | 190 | 114 | 12.5 | 112 | 690 | 445 | 30° | 360 | 525 | 590 | 90° |

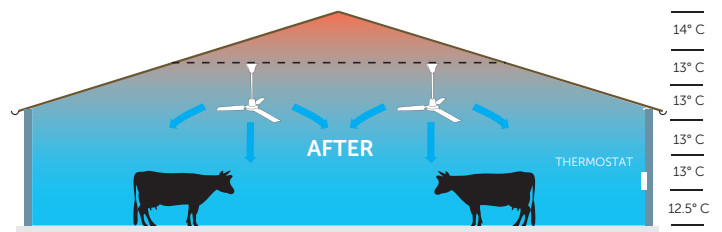
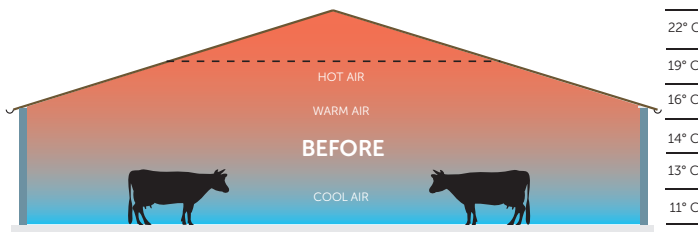
Dimensions in mm

HCF Ceiling Fan

HCF ceiling fans present a straightforward, low cost approach towards air circulation.

Hydor's ceiling fans have adjustable speed settings, so that when on low speed, Hydor ceiling fans will recover the warmer, hot that is confined at ceiling levels, ensuring that this does not escape through the roof.

Our ceiling fans will push the air down and around in a circular motion, spreading the air evenly throughout the building, therefore eliminating cold spots and draughts.



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

As the drawing shows, without ceiling fans, the warm air is stagnant, which creates uncomfortable conditions for the cattle, causing heat stress for the animals, attracting flies and making the working conditions uncomfortable for staff.

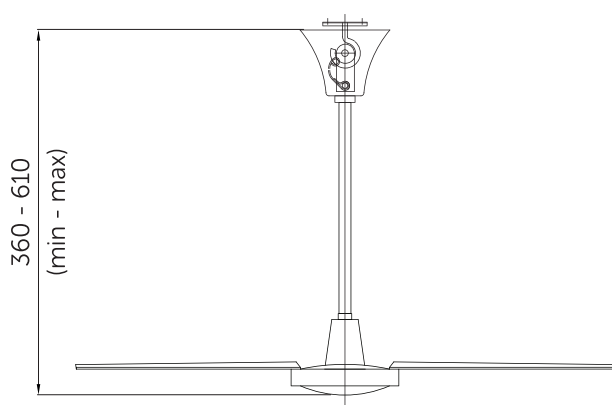
Installing ceiling fans within the enclosure will provide positive air movement, equalising the temperature levels within the building during the summer for cattle and workers, with better cooling to minimise heat stress and discourage flies as a result of the constant air circulation.

Ball
bearing

40°C
temperature

| product information | Power (W) | Speed (r/min) | FLC (Amps) | Air Delivery Max (m ³ /s) |
|---------------------|-----------|---------------|------------|--------------------------------------|
| HCF900 | 43 | 330 | 0.21 | 2.25 |
| HCF1200 | 55 | 315 | 0.25 | 3.50 |
| HCF1400 | 67 | 290 | 0.30 | 3.92 |

dimensional drawing



features and benefits

- Ceiling mounted air circulation fan
- Easy to install and maintain
- Long life ball bearings and silent automatic shutters
- Safety cable included
- Single phase 220V to 240V 50Hz

dimensions

| | Fan Diameter | Weight (kg) |
|---------|--------------|-------------|
| HCF900 | 900 | 4.0 |
| HCF1200 | 1200 | 4.5 |
| HCF1400 | 1400 | 5.0 |

Dimensions in mm.

accessories

| | Electronic Controller | Reversible Electronic Controller | Automatic Ceiling Controller |
|---------|-----------------------|----------------------------------|------------------------------|
| HCF900 | HCF1.7 | HCFC1.7 | HCFDC |
| HCF1200 | HCF1.7 | HCFC1.7 | HCFDC |
| HCF1400 | HCF1.7 | HCFC1.7 | HCFDC |

Evaporative Cooling System



Where additional cooling is required, in excessive heat conditions, Hydor's Evaporative Cooling System ensures the comfort of your livestock is maintained, thereby retaining normal feed intake patterns and reducing heat stress.

The system greatly enhances the cooling effect - work areas, outdoor facilities and animal enclosures can all benefit from the rapid, efficient cooling the system provides, thereby reducing stress and fatigue in animals whilst improving safety and worker productivity.

The added benefit of the fine spray generated by the system is that it ensures flies and other insects are kept away, an important consideration in milking parlours and entrance and exit areas of farm buildings. Within holding areas and milking parlours it is imperative cows are kept comfortable in order to achieve the best possible milk yields. Hydor's evaporative cooling system achieves this with proven success.

Using our high quality, precision misting nozzles, an ultra fine mist is introduced into the environment which interacts with the air to cool, clean and humidify. Using climate computers in combination with an evaporative cooling system, allows humidity to be controlled and optimises the climate.

Cow comfort is imperative for maximising production levels. Lower temperatures and reduced insect infestation improve conditions for the animals, thereby increasing productivity in milk yield and fat percentage. When installed over feeding areas, the animals food intake levels are increased positively affecting production levels. An even temperature maintained throughout the building will also reduce bunching and the increased heat levels generated by this.

The systems are highly economic using low levels of water and with low energy consumption which makes them a very cost effective solution for any application. In addition lower temperature levels means the fans run for shorter periods of time or at lower speeds, reducing the energy consumed.



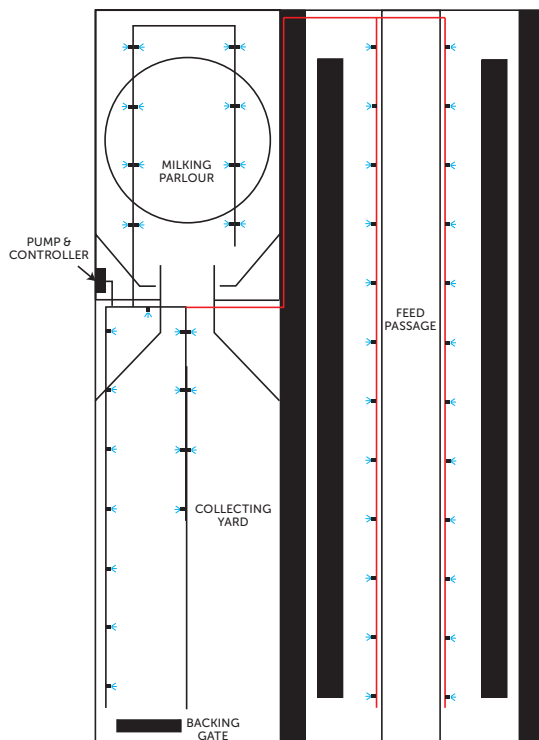
Ivy House Dairy Farm, Nottinghamshire, UK

The Hydor Evaporative Cooling System has been successfully installed at Ivy House farm who specialise in producing organic milk.

Installed within the innovative 36 bay rotating milking parlour and holding areas, owner Mark Hornbuckle comments: **"The cooling capacity of the system is excellent. The herd is milking better and is far more comfortable. Moreover, our problem with flies in the parlour has been dramatically reduced."**

The system was installed by Hydor as shown in the diagram below, with plans currently in place to extend the system (as marked in red) to the feeding lines within the cubicle areas.

As well as the Hydor Evaporative Cooling System, the farm has installed eight Hydor 1250mm HV belt drive fans in the cubicle sheds. These fans are suspended in series along the cubicle shed and their purpose is to blow fresh air through the cubicle shed, capturing any heat and moisture rising from the herd and removing it from the building.



Evaporative Cooling System and Planned Extension

Images courtesy of Ivy House Dairy Farm

HRH Radiant Heater

Hydor's tube heaters utilise radiant heat, which is designed to maximise downward radiation, heating the floor first. Tube heaters reduce energy consumption whilst improving litter quality.

A trial carried out by Farm Energy has demonstrated that tubular radiant heating can play a significant role in reducing heating energy use for broiler production. The heaters get over some of the management problems that are inherent in older type radiant spot brooders, as they are higher in capacity and they spread heat out over a much larger area.

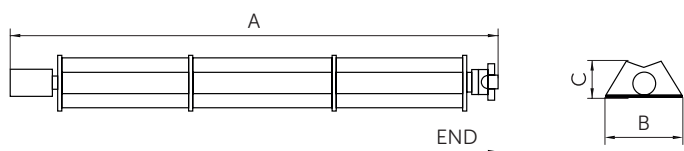
Heaters use a long radiant tube down which a gas flame is blown; the heat emission area is spread over the length of the heater, uniformity of radiant output is much better, and unit heater ratings can be much higher. This solves both the problem of localised 'spot' radiant output and having to use a large number of smaller heaters. **To download the Farm Energy report, visit www.hydor.co.uk.**



| product information | Heat Input (kW) | Appliance Type | Appliance Category | Gas | Supply Pressure (mbar) | Setting Pressure (mbar) | Injector (mm) | Burner Baffle Plate (mm) | Exhaust Baffle Plate (mm) |
|---------------------|-----------------|----------------|--------------------|---------|------------------------|-------------------------|---------------|--------------------------|---------------------------|
| SRLP30-N | 30.3 | A2, B22, C52 | II2H3P | 2 H G20 | 20 | 12.5 | #18 | 11 x 13.5 | Ø63.5 |
| SRLP30-L | 30.3 | A2, B22, C52 | II2H3P | 3P G31 | 37 | 25 | #33 | 11 x 13.5 | Ø63.5 |
| SRLP35-N | 35.3 | A2, B22, C52 | II2H3P | 2H G20 | 20 | 12.5 | #14 | 15 x 12.7 | Ø63.5 |
| SRLP35-L | 35.3 | A2, B22, C52 | II2H3P | 3P G31 | 37 | 25 | 3.1 | 15 x 12.7 | Ø63.5 |
| SRLP40-N | 40.3 | A2, B22, C52 | II2H3P | 2H G20 | 30 | 12.5 | #12 | 16 x 13.5 | Ø63.5 |
| SRLP40-L | 40.3 | A2, B22, C52 | II2H3P | 3P G31 | 37 | 25 | 3.3 | 16 x 13.5 | Ø63.5 |
| SRLP45-N | 45.5 | A2, B22, C52 | I3P | 3P G31 | 37 | 25 | #29 | 17 x 13.5 | Ø63.5 |

| product information | Electrical Supply | Power Consumption (W) | Fuse Externally Rating (A) | Protection Rating | Min. Weight (kg) | Max. Weight (kg) | Gas Connection | Flue Size (mm) | Min. Mounting Height (mm) |
|---------------------|-------------------|-----------------------|----------------------------|-------------------|------------------|------------------|----------------|----------------|---------------------------|
| SRLP30-N | 230V ~ 50Hz | 125 | 3 | IP55 | 62 | 79 | R - ½ | Ø100 | 4.0 |
| SRLP30-L | 230V ~ 50Hz | 125 | 3 | IP55 | 62 | 79 | R - ½ | Ø100 | 4.0 |
| SRLP35-N | 230V ~ 50Hz | 125 | 3 | IP55 | 62 | 79 | R - ½ | Ø100 | 4.3 |
| SRLP35-L | 230V ~ 50Hz | 125 | 3 | IP55 | 62 | 79 | R - ½ | Ø100 | 4.3 |
| SRLP40-N | 230V ~ 50Hz | 125 | 3 | IP55 | 79 | 96 | R - ½ | Ø100 | 4.6 |
| SRLP40-L | 230V ~ 50Hz | 125 | 3 | IP55 | 79 | 96 | R - ½ | Ø100 | 4.6 |
| SRLP45-N | 230V ~ 50Hz | 125 | 3 | IP55 | 79 | 96 | R - ½ | Ø100 | 4.6 |

dimensional drawing



features and benefits

- 4 model ratings
- Three emitter package lengths available
- IP55 rated burner box and fan, complete with fresh air flexible connector, clips and outlet screen
- Flake free emitter tube surface - for a safer and cleaner working environment
- Propane and Natural Gas
- Aluminium (the tested and proven superior material) reflectors, designed to maximise downward radiation
- Lightweight construction - supplied in 3m sections, easy to assemble and fit
- Efficient and cost saving heating method
- CE approved

dimensions

| dimensions | A | | | | B | C | Tilt |
|------------|---------|-----------------|---------|-----------------|-----|-----|------|
| | Maximum | | Minimum | | | | |
| | Length | No. of Sections | Length | No. of Sections | | | |
| SRLP30 | 13000 | 4 | 10000 | 3 | 300 | 150 | 30° |
| SRLP35 | 13000 | 4 | 10000 | 3 | 300 | 150 | 30° |
| SRLP40 | 16000 | 5 | 13000 | 4 | 300 | 150 | 30° |
| SRLP45 | 16000 | 5 | 13000 | 4 | 300 | 150 | 30° |

clearances

| | Side | Above | Below | End | Front | Rear |
|---------------------|------|-------|-------|-----|-------|------|
| SRLP 30, 35, 40, 45 | 760 | 457 | 2285 | 610 | 760 | 380 |

Dimensions in mm.

hydor

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Hydor Ltd has a policy of continuous product development and improvement and therefore reserves the right to supply products which may differ from those illustrated and described in this publication. Confirmation of dimensions and data will be supplied on request.

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