



hydor

pig

**Hydor is a leading manufacturer of
Heating and Ventilation products
to the pig sector.**

Hydor is driven by achieving a system design that is not only cost effective to the farmer, but enhances the pigs' performance at the same time.

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introduction

Since pigs are housed according to their age, the need to understand their precise heating and ventilation requirements is an important prerequisite of their environmental control.

Pigs require warmth, as well as a dry bed and protection from winter draughts and summer heat. There are minimum requirements for fresh air, space and hygiene to ensure that the conditions in the pigs' accommodation are stable throughout its growth cycle, with defined air temperatures. This enables growth of the animal and improves feed utilisation at the same time.

Because of their sensitivity to temperature conditions at different stages of their growth cycle, the right environment ensures pigs display stable behaviour. As social animals, this is an important facet to their ability to interact with other pigs in the group, as they tend to be kept in large numbers in one defined area.





environment

Hydor fully appreciate that farmers rearing their pigs within a building, rely on the heating and ventilation equipment and system design to provide the precise comfort conditions.

The most important aspect when designing the heating and ventilation for the building, is the performance and welfare of the pigs, thereby achieving the right balance between installation costs, reliability of product and the overall running costs.

This brochure provides an insight into the comprehensive range of Hydor products available for pig farming applications. **From farrowing through to finishing, Hydor provides the pig farmer with quality products and system design capabilities to ensure growth and animal welfare.**

Whether it be a refurbishment project, expansion or new build piggery accommodation, as one of the leading heating and ventilating manufacturers within the agricultural sector, Hydor is confident it can assist you with the design criteria specified, the right product selection and controls systems required.

Hydor have been manufacturing fans, heaters and controls, whilst working closely with pig farmers in their system design approach for more than 50 years now. It is this experience that provides the knowledge, expertise and flexibility to develop bespoke products and customer confidence in our capabilities.



applications

There are many approaches to mechanical ventilation system designs for pig buildings. The system classification is based on the air pressure of the enclosure, relative to the outside pressure.

The drawings outlined in this brochure are intended merely to illustrate some typical arrangements at those differing stages from farrowing to finishing. These arrangements show typical negative pressure systems, which operate below outdoor air pressure i.e. fans exhausting from the enclosure.

It must be stressed however, that there are many ways in which the design criteria could be met, and it should not be assumed that the examples illustrated are the only ones.

It is important to understand that Hydor has more than 50 years experience in the development and design of agricultural ventilation and heating systems. We ensure our capabilities provide the precise environmental conditions required by pig farmers in terms of the temperature and air speeds throughout the pig's life cycle.

applications

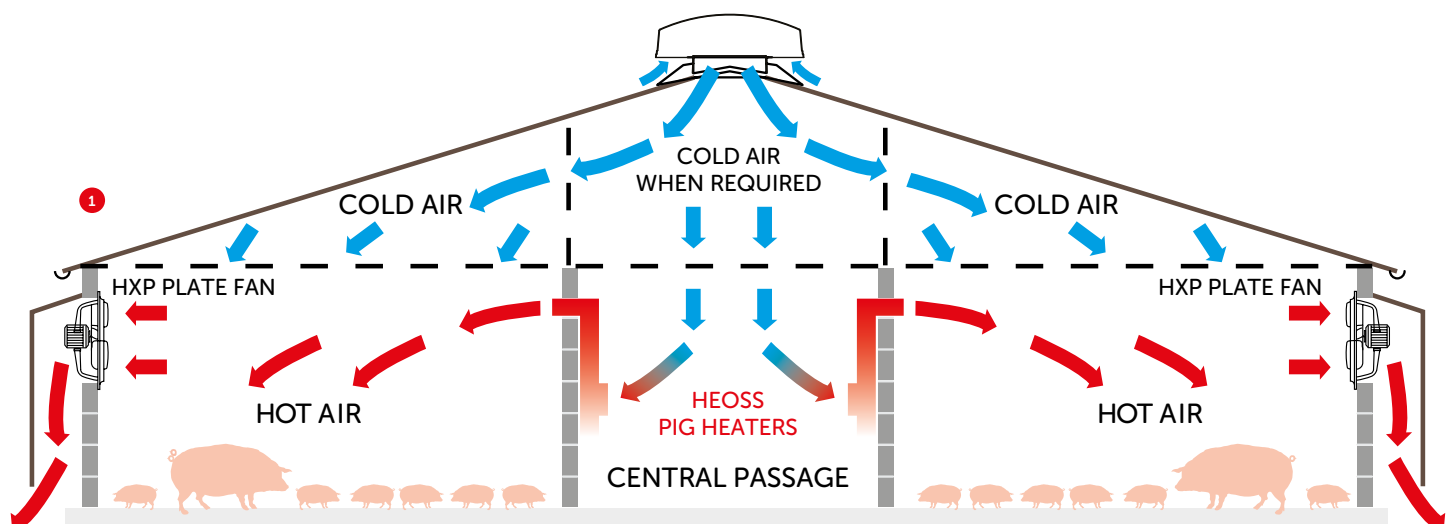
farrowing house

The newborn piglets require a lot more warmth during the first few days in order to adjust to the weaner accommodation; a critical part of their growth cycle which takes place in the Farrowing House.

Providing the correct temperature in the Farrowing House is particularly important due to the pig's high sensitivity at this stage and owing to the fact that a pig's growth is critical to its performance in the future.

Equally important to understand, is that heating for the sow and piglets need to be considered separately when determining heating and ventilation, as they require significantly different temperatures.

Figure 1 This particular drawing depicts a Farrowing House with roof inlets and side extraction where the fans are mounted in the side walls of the building. Air is drawn through the inlet unit, though a slotted ceiling area into the cubicles when required for ventilation. When heating the units, air will be drawn through the slot in the passageway into the HEOSS pig heater units and blown into the cubicle; naturally expelling through the outlet. Farrowing Units only require gentle air movements so as not to disturb the mother and the piglets. The central air inlet can have adjustable shutters fitted to direct the air where required.



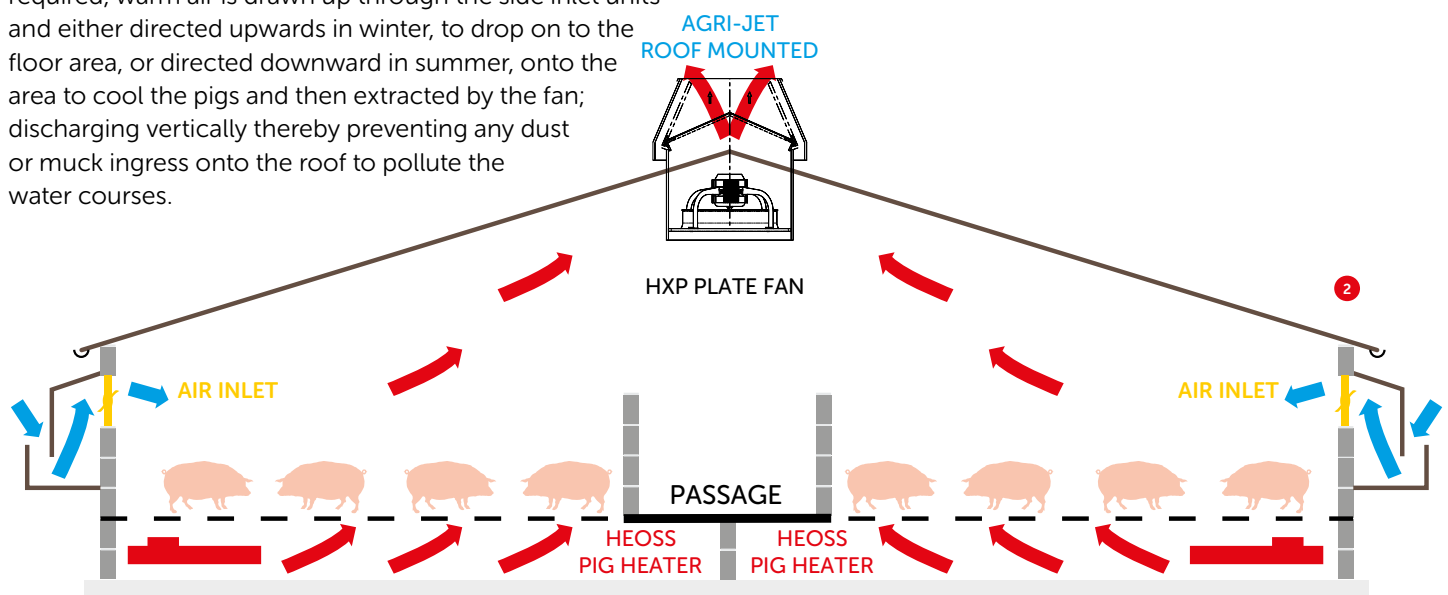
weaning house

Whilst in the Weaning House, the pigs are known as 'weaners'. They are usually housed in pens holding a number of pigs, where they remain until they reach the correct weight and are moved out to the fattening house. There are many variations in the design and layout of the Weaning House, although it generally consists of a central feeding passage with pens on either side and a dunging area along the outside walls. Most weaner accommodation incorporates heating and ventilation with the heating accounting for most of the energy use because of its importance in the pig's growth. With earlier weaning becoming more common place, the use of more heating at the weaner stage is apparent. Although there are a wide variety of heating systems available on the market for weaner housing systems, Hydor provide the proven HEOSS range of heaters for this application.



With rapid growth at the weaner stage of accommodation, the heat output of a group of pigs begins to increase and temperature requirements decrease, thereby initiating a gradual change from heating to ventilation within the building. Hydor is able to provide the controlled environmental conditions to ensure the automatic operation of both the heating and ventilation systems as the need arises within the accommodation.

Figure 2 This is a typical illustration of an arrangement where the HEOSS heater units are placed under the floor and warm air is blown into the under floor camber rising through the floor area where the pigs lie, naturally venting through the roof mounted fan unit. When ventilation is required, warm air is drawn up through the side inlet units and either directed upwards in winter, to drop on to the floor area, or directed downward in summer, onto the area to cool the pigs and then extracted by the fan; discharging vertically thereby preventing any dust or muck ingress onto the roof to pollute the water courses.



applications

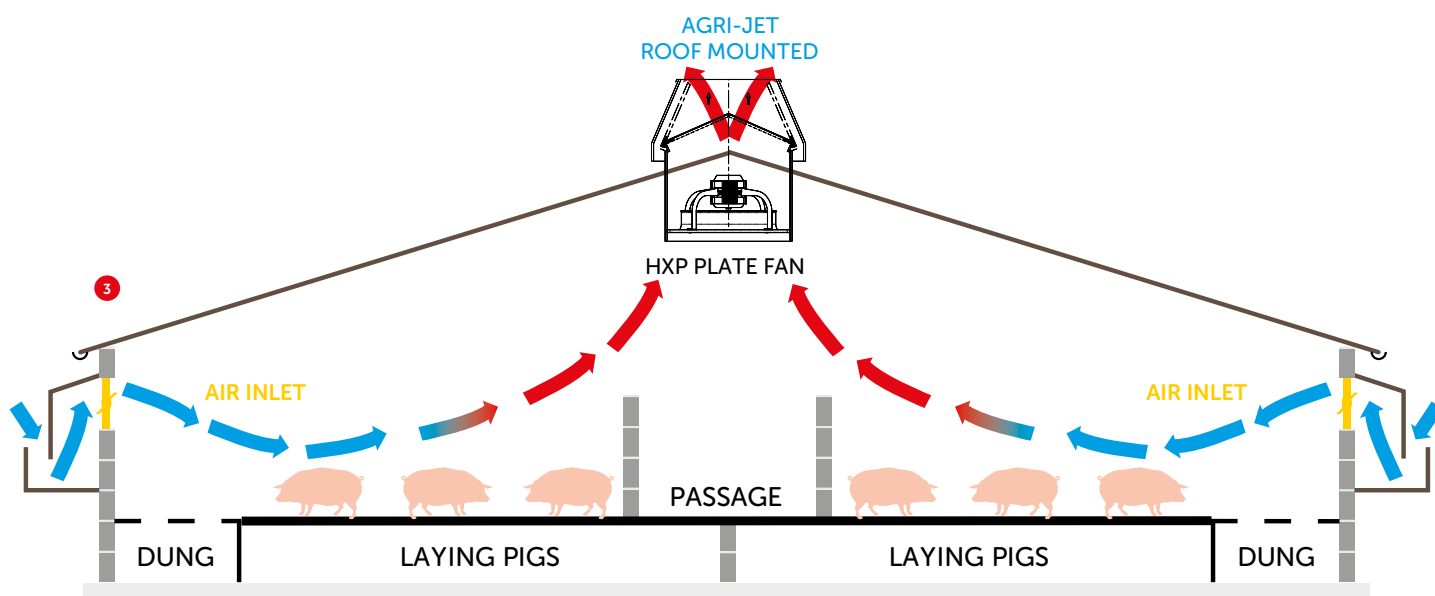
fattening house

The Fattening House is essentially the same as the Weaning House but on a larger scale and with more mature pigs that are more tolerant to a greater variation of temperatures. However, whilst in the Fattening House, the pigs feed intake, growth rate and the efficiency of its feed conversion are largely dependent on the environmental temperature within its accommodation.

Figure 3 illustrates a conventional roof extract, negative pressure system. Here, air is drawn into the unit through the side inlets and directed either upwards in winter, allowing the air to fall into the dunging area, or directed down to the dunging area in summer, passing over the pigs and rising towards the centre of the unit to be exhausted through the roof mounted fan unit. Dust and foul air are discharged vertically out and off the unit, preventing fouling of the roof and contamination of any water courses.

With a larger pig at this stage in its growth cycle, the heat output increases with the weight and temperature requirements fall, thus the ventilation systems in Fattening Houses require a higher capacity than required in the farrowing or weaning accommodation.

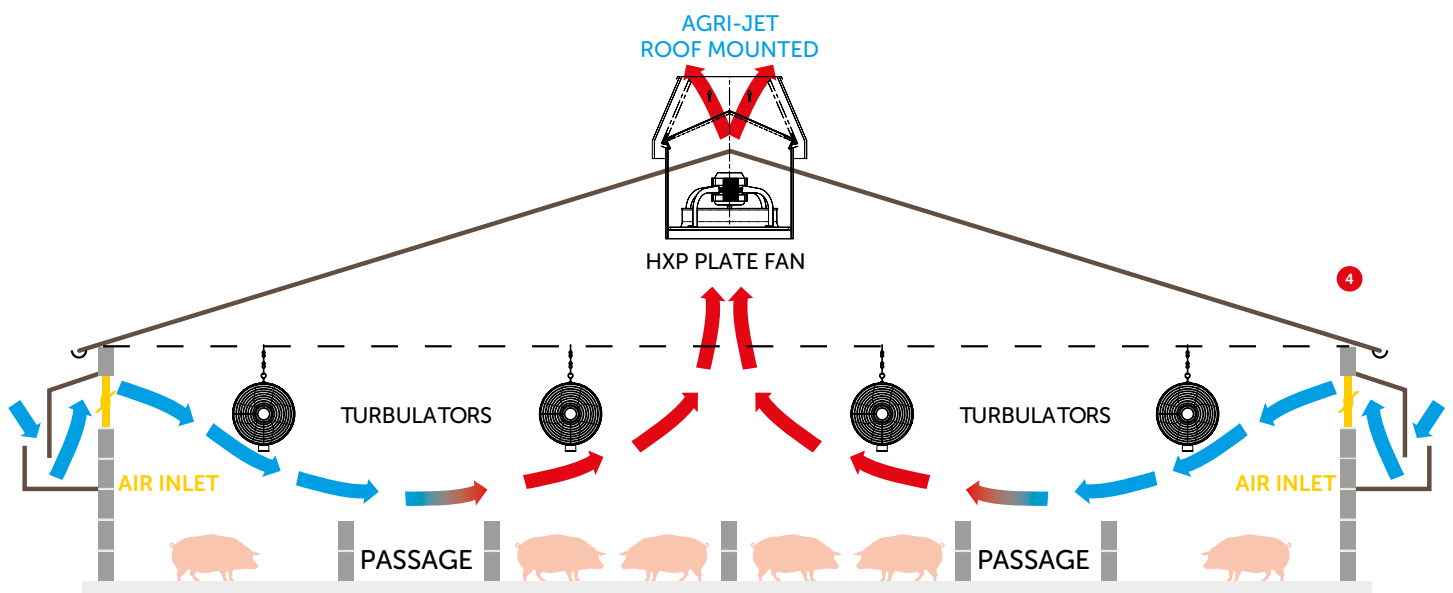
The ventilation required at this stage of pig production means that the selection of fans and controls, as well as the reliability and maintenance for these systems, is fundamental for efficient operation.



breeding sows & heavy hogs

The dry and pregnant sows are either housed in pens holding several sows or in sow stalls, whereby the pigs are housed individually; this has the advantage of individual feeding without the possibility of fighting.

Figure 4 This illustrates a typical conventional negative pressure, roof extract system. Air is drawn through the side inlets and directed upwards in winter allowing the cooling air to fall naturally onto the pigs. In summer the air is directed towards the stock, combining with the warm air around the pigs and exhausting through the fan mounted in the roof mounted Agri-Jet Unit. Foul and dirty air is discharged vertically into the air, preventing fouling of the room and contamination of any water courses. Additional Turbulator fans can be introduced to circulate and blow air onto the pigs in hot summer conditions.



heating

Heat is required for two principal reasons; firstly, to maximise the pigs feed conversion and secondly, to reduce the mortality rate amongst piglets.

When the pigs are kept below their lower critical temperature, they will convert more of their food into energy as opposed to body weight. Inevitably the heating systems on the market are as varied as the building designs for pig housings.

With effective heating and control products from Hydor, the precise temperature conditions can be carefully maintained for the pigs.



ventilation

Good ventilation design is a vital and integral part of the design process of any livestock building.

At Hydor, we strive to provide a ventilation system for pig farms that accomplishes the following:

Provides the desired amount of fresh air, without draughts, to all parts of the building

Maintains temperatures within desired limits

Maintains relative humidity within desired limits

Ensures ammonia levels are below specified levels to assure worker safety

Hydor's objective in ventilation system design of buildings is to maintain a healthy environment for animals and workers in the facility.

After more than 50 years of creating the right environmental conditions for livestock producers, Hydor has a vast amount of valuable experience dealing with ventilation systems and design.

Take a look at some of the specific products within our comprehensive range for pig farming applications such as the brand leading High Efficiency HXP Plate Fan, Roof Mounted Agri-Jets, Turbulator Fans and High Flow Air Inlets.



product selector

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

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



HTS Turbulator Recirculation Fan

pg 16

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**



HXP Plate Fan

pg 18

Product Code **HXP**

Airflow m³/s **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**



HXRU Roof Mounted Agri-Jet

pg 20

Product Code **HRU**

Airflow (m³/s) **Up to 4.84**

Construction **Alu-Zinc and recycled plastic unit. Easy to install into roof.**

Complete with backdraught shutters. Vertical Jet discharge ensures clean roof.

Ambient Operating Temperature **50°C**

Weight (kg) **60 - 64**



HAI High Flow Air Inlets

pg 22

Product Code **HAI**

Airflow (m³/s) **2900**

Construction **Polyurethane foam, Highly resistant to chemicals, Simple to install. Minimal resistance.**

Dimensions (mm) **842 x 305**

Weight (kg) **5 - 10**



Evaporative Cooling System

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**

pg 24

conversions

volume

$1 \text{ m}^3/\text{hr} = 0.00028 \text{ m}^3/\text{s} = 0.278 \text{ L/s} = 0.589 \text{ CFM}$

pressure

$1''\text{WG} = 249.1 \text{ Pa}$

velocity

$1 \text{ m/s} = 196.85 \text{ ft/min}$

power

$1 \text{ Hp} = 0.746 \text{ kW}$

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

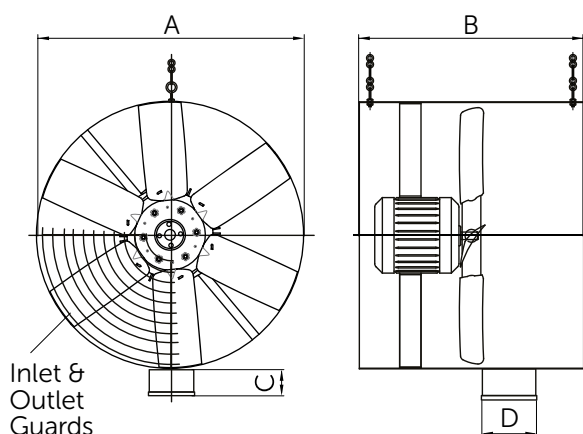
product information	Diameter (mm)	Speed (r/min)	Airflow (m ³ /s)	Throw (metres)	dBA @ 3m	Power (kW)	FLC (Amps)
HTS450	450	1360	1.31	23.4	64	0.545	2.31
HTS500	500	945	1.21	19.7	57	0.280	1.33
HTS630	630	945	2.34	22.5	64	0.721	3.15

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 farrowing and weaning houses, as well as breeding sows and heavy hog buildings, 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.

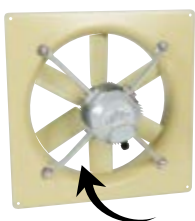
THREE Phase

380V to 415V / 50Hz

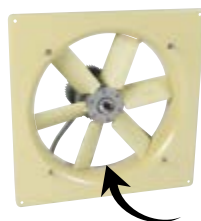
	Speed (r/min)	Airflow m ³ /s @ Static Pressure (Pa)						Overall Eff. %	FMEG	Input (kW)	FLC (Amps)	dBA @ 3m
		0	25	50	75	100	150					
HXP45043#	1435	1.850	1.754	1.647	1.526	1.387	1.037	36.3	N44	0.433	1.08	57
HXP45063#	945	1.276	1.111	0.904				29.5	N40	0.163	0.64	48
HXP50043#	1372	2.701	2.569	2.431	2.281	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



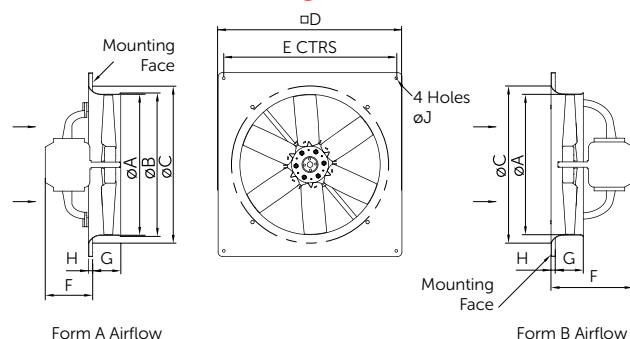
B airflow



IP55
protection

55°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

HXRU Roof Mounted Agri-Jet

The Agri-Jet roof mounted unit is a high velocity jet extraction unit for on or off-ridge installations.

The design of the inlet ensures that it operates at high efficiency by maximising air flow and operating at low back pressure which minimises operating costs. Stale air is expelled through the cowl to a height of approximately 60 feet, ensuring that any dust, moisture, ammonia and smells are dissipated as they leave the building.



SINGLE Phase

220V to 240V / 50Hz

	Speed (r/min)	Airflow SFP	Airflow m ³ /s @ Static Pressure (Pa)				Electrical Data		dBA @ 3m	
			0	25	50	75	FLC	Input kW		
HXRU63061	924	m ³ /s	2.871	2.694	2.468	2.181	3.70	0.769	Inlet	60 dBA
		W/(L/s)	0.23	0.25	0.29	0.35			Outlet	59 dBA
HXRU71061	913	m ³ /s	3.322	2.989	2.494	-	5.30	0.805	Inlet	61 dBA
		W/(L/s)	0.24	0.27	0.32	-			Outlet	60 dBA
HXRU80061	914	m ³ /s	4.391	3.944	3.467	2.848	5.30	1.173	Inlet	59 dBA
		W/(L/s)	0.27	0.29	0.32	0.39			Outlet	58 dBA

Agri-jet assembly is out of the scope of 1253/2014 legislation. FLC Amps @ 230V / 1Ph / 50Hz.

THREE Phase

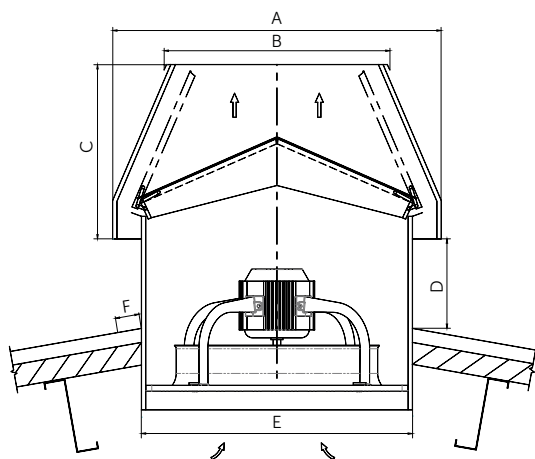
380V to 415V / 50Hz

	Speed (r/min)	Airflow SFP	Airflow m ³ /s @ Static Pressure (Pa)				Electrical Data		dBA @ 3m	
			0	25	50	75	FLC	Input kW		
HXRU63063	912	m ³ /s	2.841	2.529	2.130	-	1.70	0.583	Inlet	60 dBA
		W/(L/s)	0.20	0.23	0.27	-			Outlet	59 dBA
HXRU71063	862	m ³ /s	3.721	3.332	2.808	-	1.70	0.689	Inlet	61 dBA
		W/(L/s)	0.22	0.25	0.30	-			Outlet	60 dBA
HXRU80063	896	m ³ /s	4.107	3.694	3.205	2.527	2.10	0.860	Inlet	56 dBA
		W/(L/s)	0.20	0.23	0.26	0.33			Outlet	55 dBA

Agri-jet assembly is out of the scope of 1253/2014 legislation. FLC Amps @ 400V / 3Ph / 50Hz.

Please contact us for full technical data.

dimensional drawing



features and benefits

- 3 sizes 630mm - 800mm
- High efficiency fan easily accessible for cleaning and maintenance
- Minimal back pressure ensures maximum fan efficiency
- High velocity exhaust jet of approximately 60 feet ensures no roof dust deposit
- Plastic thermal barrier trunk reduces noise levels and in-house condensation
- Supplied as ready-assembled units for on-ridge or off-ridge installation
- Low silhouette design provides tidy and unobtrusive appearance
- Roof mounted units can be opened using an optional cable system as a fail safe contingency
- Agri-Jet top sections can be coloured to suit local planning requirements

dimensions

	A	B	C	D	E	F
HXRU630	900	421	509	193	805	300
HXRU710	941	454	543	199	847	300
HXRU800	1067	503	603	197	971	300

Dimensions in mm.

accessories

- Propeller Side Guards are available for low mounted applications
- Removable Light Baffle boards for eliminating light
- Agri-Jet top section units are available to mount over existing trunks, giving increased air output

HAI High Flow Air Inlets

The Hydor High Flow Air Inlets control the direction, path and distribution of fresh air into a building. Inlets are perhaps one of the most important parts of your ventilation system. By opening or closing the inlet, you regulate the thickness of the air jet, the air velocity and therefore, the distance the air flows into the building.

Hydor Inlet systems allow more air in according to seasonal changes, by adjusting the inlets to maintain the airflow path and velocity. Inlets can be adjusted manually as required by temperature changes.

Under normal conditions, the aerofoil type flap guides cold air along the ceiling line to fully temper with the internal air. During hotter periods, the flap deflects air downward to create airflow and turbulence at pig level, therefore relieving animal stress and reducing mortality potential.

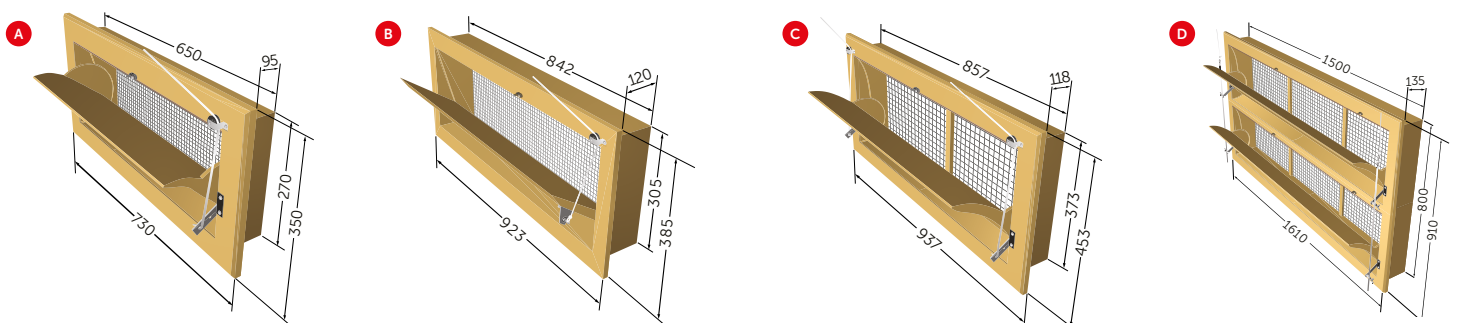
Accurate control of the flap is achieved by connecting a pull cord to a winch operated cable or rod system, which in turn can be linked to either sequential, computerised or differential pressure control systems.

features and benefits

- Inlets constructed from durable polyurethane foam
- A very high degree of insulation
- A strong structure with a low weight
- Easy to handle (adjusting, gluing etc.) with quick and easy mounting
- Easy to clean and environmentally desirable
- Highly resistant to chemicals, aggressive gases and dry rot
- Inlets can be supplied for either wall or ceiling mounted applications
- Simple to install either in a new system, or as a retro-fit to upgrade an existing system design



models



Model	Airflow m ³ /hr @ Static Pressure (Pa)			Cutout Dimensions w x h (mm)
	10	25	40	
145-VFG	1450	2050	2900	650 x 270
2500-VFR	2500	3500	5000	842 x 305
3000-VFG	2900	4100	5800	857 x 373
6000-VFG-2	11600	17500	23200	1500 x 800
6000-VFG-3	17400	26250	34800	1500 x 1200
6000-VFG-4	23200	35000	46400	1500 x 1600
120-P	1100	1560	2200	630 x 230
84-P	760	1070	1520	535 x 240
4000-VFG	3900	5500	7800	715 x 565
2800-VFRM	2800	4000	5600	880 x 360

A 145 - VFG

The standard inlet for pig units; up to 35% open, air is only let in over lip. Above 35% open, air is also let in below the flap allowing air directly on to the pigs.

B 2500 - VFR

A simple model without seals or return springs but a large capacity.

C 3000 - VFG

A double capacity version of the standard 145-VFG.

D 6000 - VFG - 2/3/4

Tunnel Inlet Unit.

E 120 - P & 84 - P

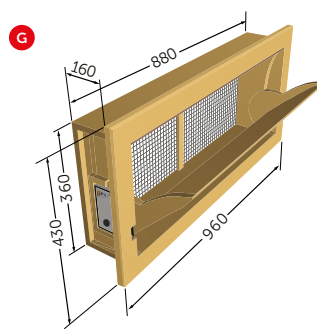
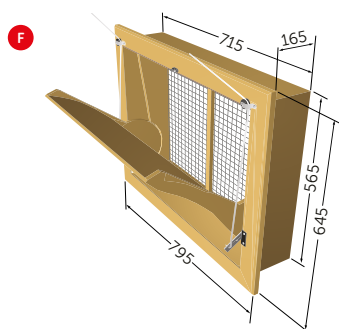
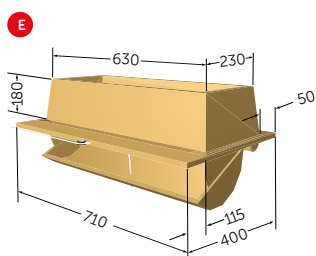
Designed for installation in the ceiling. Smaller version available, to 84-P.

F 4000 - VFG

Flange model with flange on the front. Divided air directions; up to approx. 25% air enters only from the top; after that, also from the bottom. Ideal for large ventilation capacities.

G 2800 - VFRM

Motorised air inlet valve eliminates the need for pulleys and cables. The inlets integrated actuator can be controlled by a wide range of controllers or climate computers.



Evaporative Cooling System



In excessive heat conditions, where additional cooling is required, Hydor's Evaporative Cooling System ensures the comfort of your livestock so that normal feed intake patterns can be retained and heat stress reduced.

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. Not only does the system reduce stress and fatigue in animals, it also improves safety and worker productivity.

Pigs are sensitive to high temperatures and during summer periods this can have serious consequences for their well-being and productivity. Pigs are unable to sweat to cool themselves and suffer heat stress at temperatures as low as 23°C. When the temperatures within the building reach 24-26°C, the pigs take to lying on the cooler floor within their soiling areas as opposed to the straw or sawdust on their laying areas. This behaviour creates added difficulty when mucking out the houses.

Temperatures in excess of 27°C carry increased risk of mortality and heat stress in grower / finisher pigs which can reduce daily feed intake and cause poor feed to gain ratios.

During hot weather, lactating sows eat less causing decreased milk production, lower litter weights, excessive weight loss and breeding problems after weaning. In your breeding herd, heat stress can delay puberty in gilts and reduce fertility in both sows and boars.

By utilising high pressure cooling, the buildings air temperature can be reduced by 5-6°C dependant on the external temperature and relative humidity.



dust binding

In addition to reducing the temperature in summer, the high pressure evaporative cooling system is advantageous in reducing dust levels, particularly at feeding times, as well as reducing ammonia fumes and other odours all year round.

humidifying

During heating periods, or following the arrival of new litters, the system is ideal for achieving and maintaining the optimum humidity levels. Additional applications such as soaking and disinfection of pig housing reduces cleaning times whilst creating a safer environment for the pigs.

multiple applications

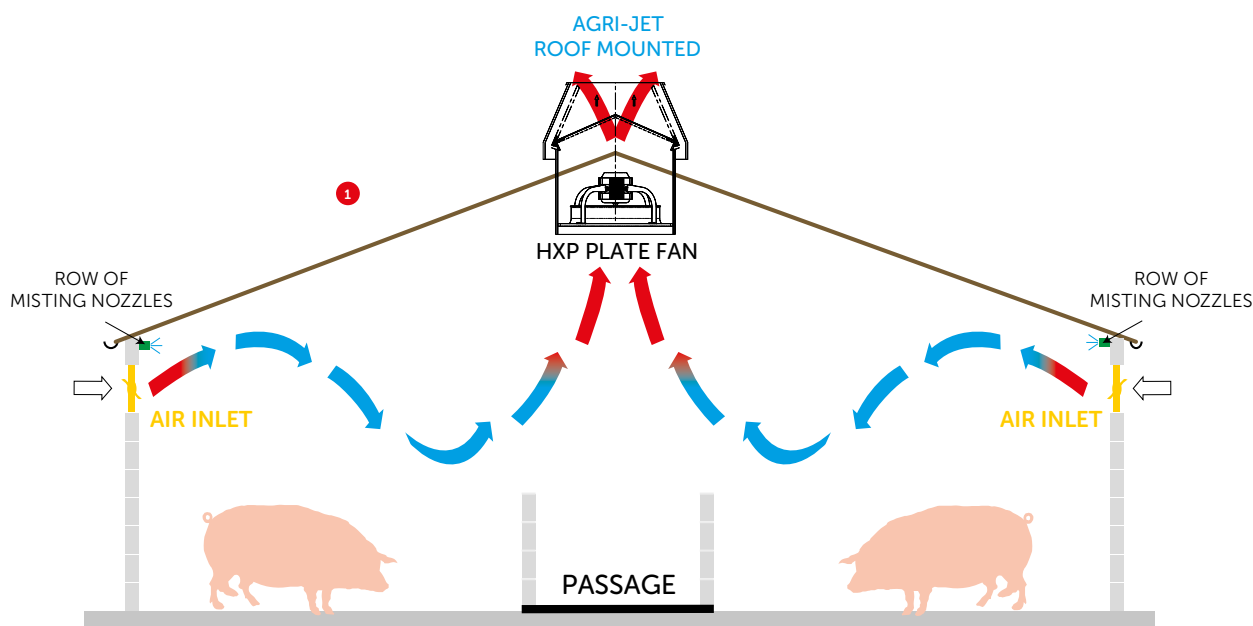
Highly reliable and flexible for adaption to any pig housing and with construction from stainless steel, the pipes are resistant to acid-corrosion for longevity. The pumps are capable of running various different applications independently, allowing for different pig housing areas to be cooled, moistened or soaked dependant on your requirements.

High pressure evaporative cooling should be regarded as an extra measure to reduce high temperatures and can be successfully implemented alongside various ventilation arrangements. Hydor can supply all fans, inlets, controls and evaporative cooling components to meet your system requirements.



1 Illustrates Hydor Agri-Jet units mounted in the roof with inlets positioned along the two side walls. Misting nozzles are positioned internally above each inlet.

Air is drawn in through the inlets and mist from the nozzles meets the rising hot air, heated by the warmth generated by the pigs. The mist is evaporated immediately and the internal temperature of the house reduced.



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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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