

Acid air scrubbers

Designed specifically for the poultry industry.

VentMax is the
future of air
scrubbing and
environmental
control in poultry
sheds.



Introduction

IPT VentMax end of house wet acid scrubbers and are identified as an appropriate BAT for reducing ammonia emissions to air from broiler, broiler breeder houses and layers (Commission Implementing Decision (EU) 2017/302 – BAT 31 c.1)



Advanced air scrubber

These units are designed to provide all the ventilation needs of the fully stocked houses across the normal range of operating conditions. Each air scrubber unit is equipped with 4 high-velocity fans mounted for a high velocity throw as required. Air is drawn into the houses via inlets located along the sides of the building. It is then drawn into the air scrubber units through a single large internal inlet where it passes through a filter system before being expelled through the fans.



Continuous ventilation

Each poultry house will require roof ridge mounted high-velocity fans and gable end fans which are provided as emergency back-up to the continuous ventilation system. Under the normal range of operating conditions, the ridge fans and gable-end fans are shut down. The emergency back-up system is available to maintain the house environment and ensure bird welfare in the event of extreme heat or system failure.



Automatic control

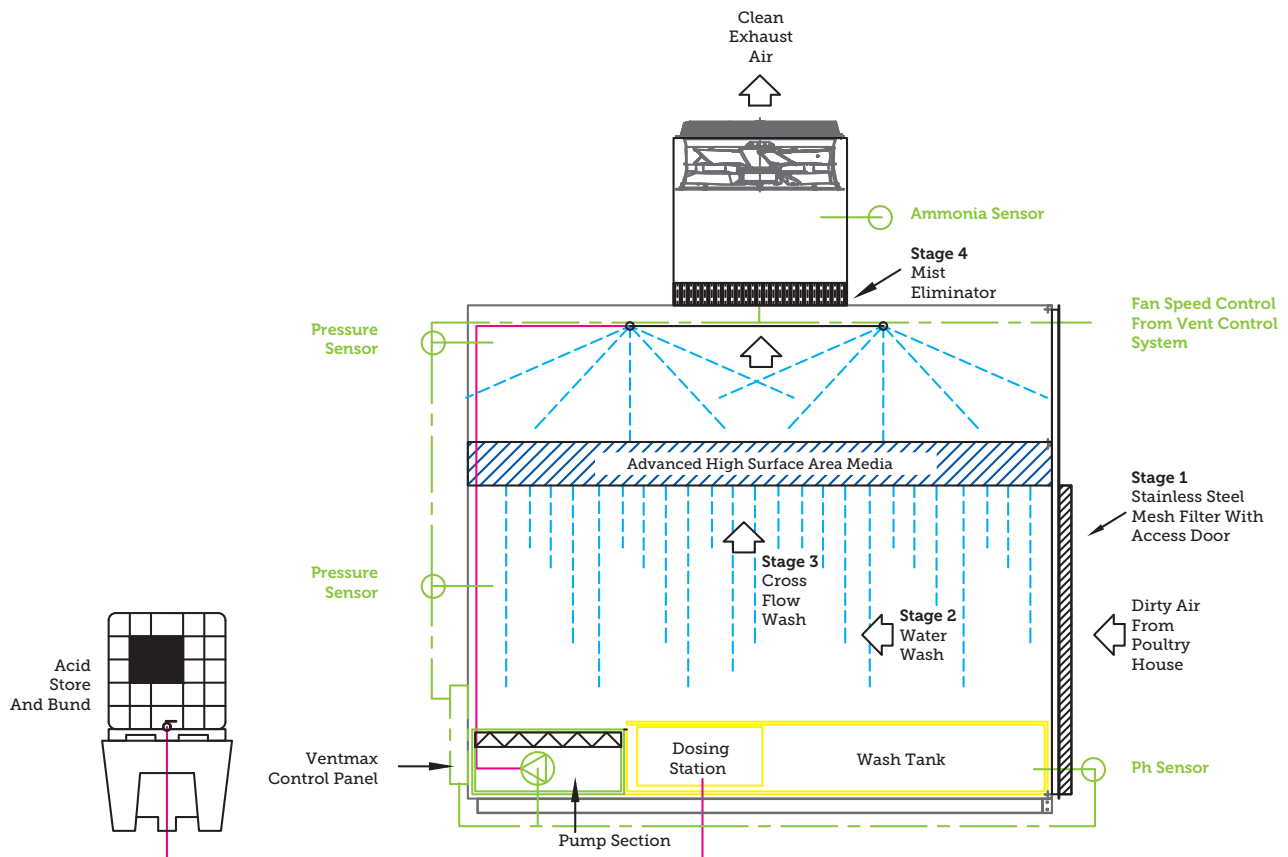
The whole ventilation system is automatically controlled via the shed "building management system" that is normally accessed from the main electronic panel located in the control room/entrance to each house. Continuous recording via an electronic logbook is in place and can be accessed remotely.

Ammonia scrubbing technology

A continuous ventilation system draws air (by suction principle) through a single point of outlet from the poultry house and across the air scrubber.

Ammonia in the air extracted from the house reacts with and dissolves into the acidic substrate within the reactor core. The wet acid scrubber units use sulphuric acid (96%) to maintain a pH value below 4 in the scrubbing liquid at the reactor. The solution is sprayed

over an extended surface area filter and scrubber media as the air is passed through the system and extracted through high pressure fans and end of house chimneys. The solution is automatically dosed and regulated using a PH sensor. A dirty water filtration system and electrolytic metering ensures continuous operation while discharging treated water to the dirty water tank storage system.



How Ventmax Works Scrubber Unit Components

Stage 1

Air is drawn in through an opening at the end of the poultry house through a stainless steel filter mesh which removes large particulates.

Stage 2

The air is then passed through a water cascade which removes dust and particulate matter before being drawn up through the media filter.

Stage 3

The air is then passed through a cross flow packed filter arrangement also known as the reactor. (Advanced High Surface Media), where more dust is removed, and the ammonia gas reacts and is absorbed into the water.

Stage 4

The air is finally passed through a mist eliminator to ensure water droplets remain within the unit, before being expelled to atmosphere through a high-pressure fan.

A wash tank with pump provides continuous distribution and recirculation of water to the top of the packed tower.

A self-cleaning and replaceable in-line filtration system removes solids and replacement with fresh water.

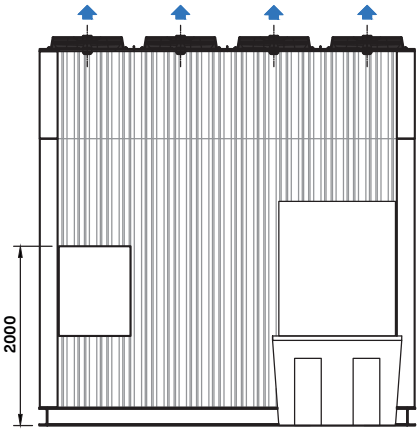
A dosing station automatically introduces the chemical to the wash cycle to react with and remove ammonia.

The scrubber has a built in acid storage tank for no handling problems which are delivered to site using a specialist contractor according to use but normally once every 2 months.

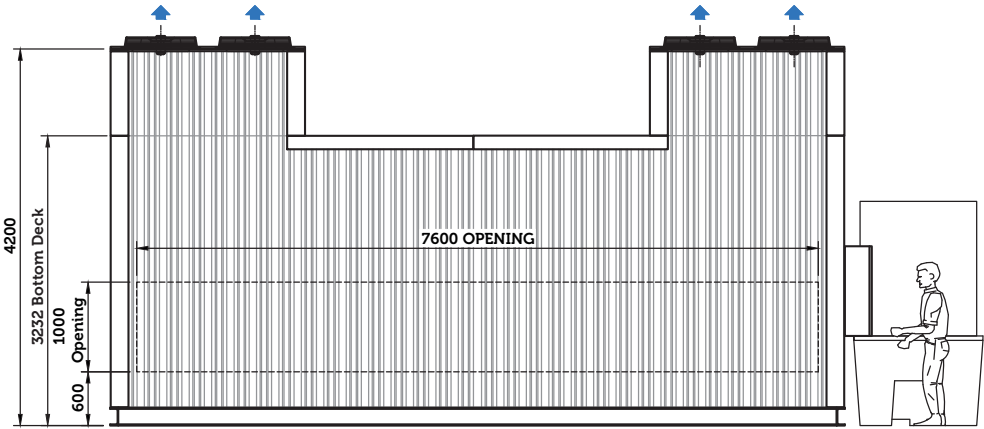
The dirty water must be discharged into an onsite dirty water storage tank and removed accordingly once full.

The unit will require a three phase electrical supply, connection to a drain to dirty water tank and fresh water supply.

VentMax 1200

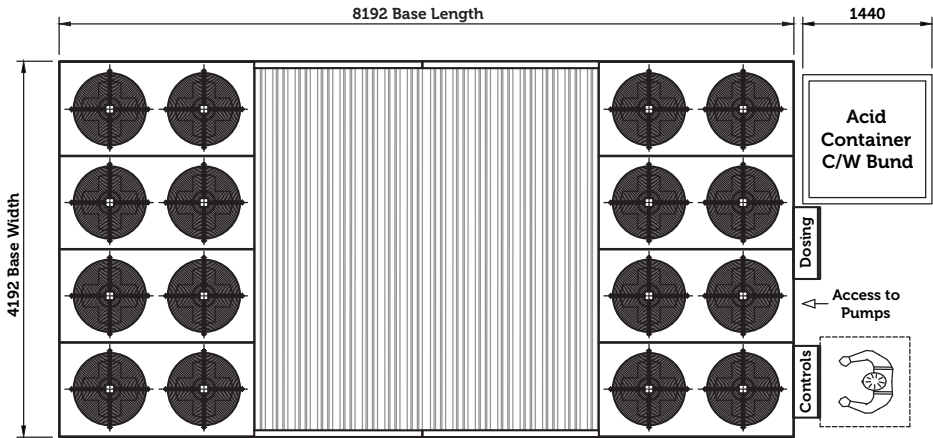


- View On A -



- Front Elevation -

A
←



- Plan View -

Data

Capacity

Maximum Air Capacity	A30/H65	120,000 m³/h
Minimum Air Capacity	A30/H65	24,000 m³/h
Scrubbing residence time	A30/H65	0.6 sec
Outlet concentration	NH ₃ 7 @33m³s	2.00 PPM
Number of fans		4.00
Packed filter media		19.2 m³
Packed Bed Surface		150.00 m²
Maximum Power Consumption	400V	15.00 kW
Acid holding tank	(B2/W45)	800 ltr

Operating Efficiency

Maximum Removal Efficiency	NH ₃	100%
Minimum Removal Efficiency	NH ₃	76%
Average Removal Efficiency	NH ₃	92%
Average Dust Removal Efficiency	PM _{2.5}	97%
Average Odour Removal Efficiency	ouE	40%
Average Water Consumption	Fresh	1 m³/d
Average Acid Consumption	96%	7 ltrs/d
Average Power Consumption	Daily	290 kWh
Average Power Consumption	Annual	35 MWh

System

Frame	Painted Steel
Wash Tank	Fibreglass
Lining	Plastic
Controls	Carell
Pipework	Plastic
Acid Tank	Plastic
Filter Media	Plastic

Dimensions

Height mm	4500
Width mm	4200
Length mm	8200
Weight kg	4000



**VentMax helps
poultry farmers
with planning
applications
especially in
sensitive areas.**

Benefits for planning applications

VentMax treats air leaving your poultry house, reducing dust, ammonia and odour levels by up to 90%, aiding environmental compliance and supporting expansion plans. Ventmax scrubber units aid planning applications especially in sensitive areas and ensure both EA and NRW compliance for environmental permits.





About IPT

IPT designs, manufactures and installs innovative heating and cooling plant that solves real commercial challenges. Our product range continues to expand, with the GeoCube, VentMax and OptiRad systems all designed with the agricultural industry in mind. We have an enviable track record delivering commercial and agricultural design and build projects. From conception to completion, we make sure every project is on time and within budget.

Made in Britain

We design and manufacture all our products from our state-of-the-art production facility in Bromsgrove. Because our designers, production team and service engineers collaborate together on one site, we can deliver quality-engineered products, bespoke solutions and a seamless service.

Aftercare service

Once installed, our commitment to quality continues, with our comprehensive aftercare service programmes. These include a technical helpline, on call duty engineers, planned maintenance, remote system checks and performance reports.

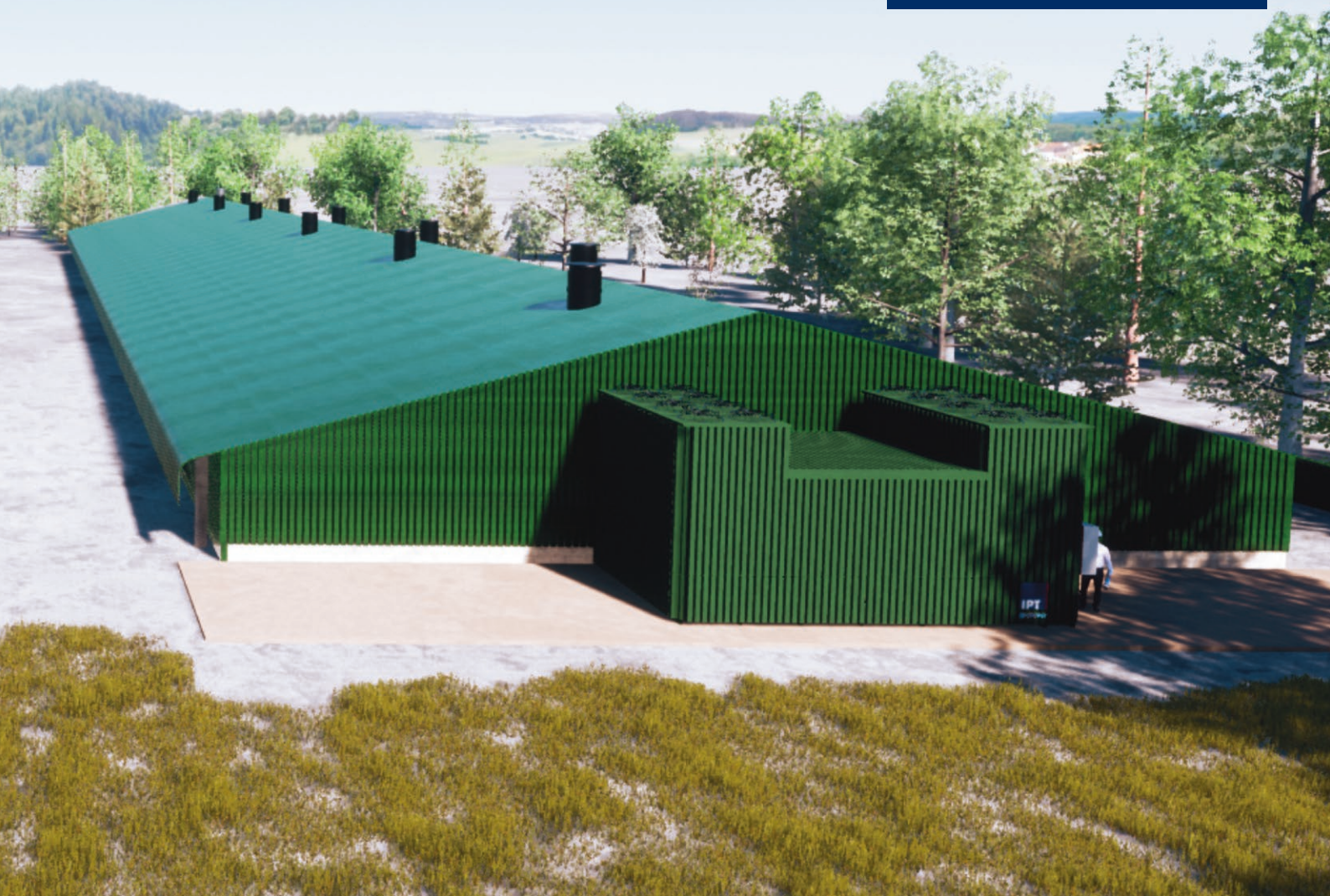
IPT (IPT Technology Ltd) is part of the IET Group (Integrated Eco Technologies) which includes:

EcoAir Box: fully packaged air handling units

ExCool: market-leading advanced data centre cooling

Mercury Climatic Services: full HVAC installation service.

All our products
are designed and
manufactured at
our state-of-the-art
production facility
in the Midlands.





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