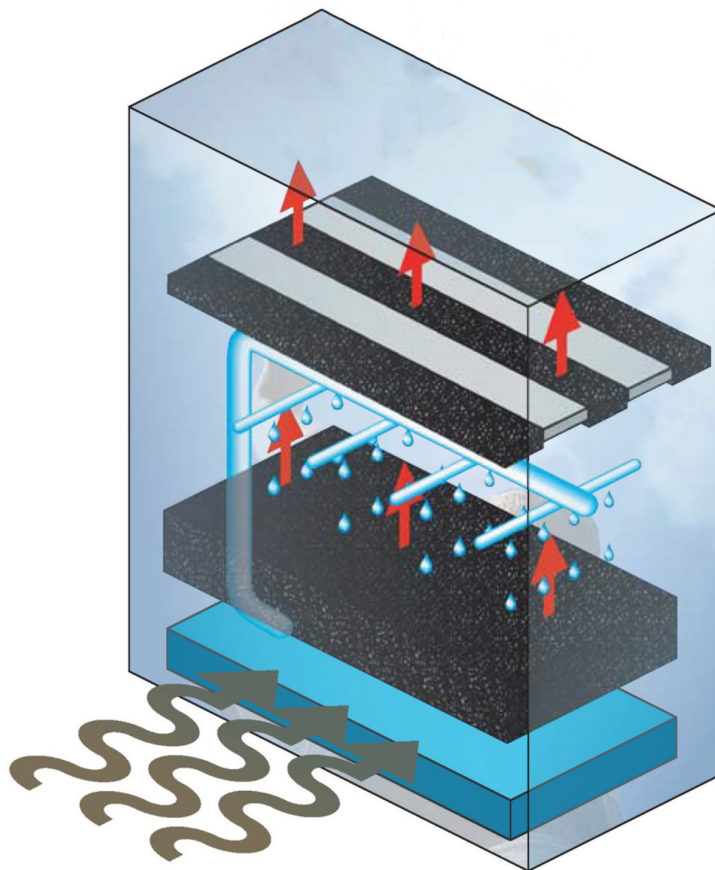




JF MCKENNA[®]
Smarter for **Poultry**

Pollo-M (B)

Chemical air scrubber, built-in version, counterflow principle.



The offer is based on a chemical air scrubber Pollo-M, built-in version, with a horizontal washing bed and is presented according to DLG certification for Broilers Prüfbericht 6260.

JF McKenna chemical air scrubber

Due to the large surface area of the washing bed, the air scrubber has a low air resistance. As a result, the power consumption of the house ventilation fans is significantly lower. In addition, the unique pump technology for the washing water has a low energy consumption. Sufficient continuous irrigation of the washing bed keeps the air scrubber clean. The system is optimally accessible for maintenance and control and thus user-friendly.

Ventilation requirements:

Broiler shed 1: 428,045 m³/h

Broiler shed 2: 428,045 m³/h

For this quotation we propose a chemical air scrubber, built-in version, with a horizontal washing bed.



The Pollo-M chemical air scrubber according to DLG Prüfbericht 6260 reduces 91% ammonia, >87% dust, >77% particulate matter PM₁₀ and >93.7% particulate matter PM_{2.5}.

Description and dimensions of the air scrubbers

Both air scrubbers are connected to 1 central controller in a Master + Slave construction.

Dimensions per air scrubber (per house):

- Design: Integrated in a building with horizontal washing bed
- Dimensions L x W x H: 24.0 x 4.8 x 0.6 m net dimensions washing bed
- Technical area: Outside the air scrubber in a separate room (delivered by client)

Technical Features of the air scrubber:

- Water distribution: Sprinklers above the washing bed
- Pre-rinse: Sprinklers before the washing bed
- Weight: 350 kg per m² floor space
- Exhaust: Standard pointing upwards, droplet catcher in the roof
- Cleaning set: Hose set for cleaning the washing bed (1 per scrubber)

Technical components built on the Skid (1 in total):

- Control unit: Prefab built on the skid including sensors, valves, etc.
- Acid dosage: Sulphuric acid pump & dispenser
- Pressure unit: Registers pressure difference before and after the air scrubber
- Pump: 4x 3.0 kW 400V pump including filter;
- Water supply: Flow meter and safety valves
- Waste water: Drain control with flow meter

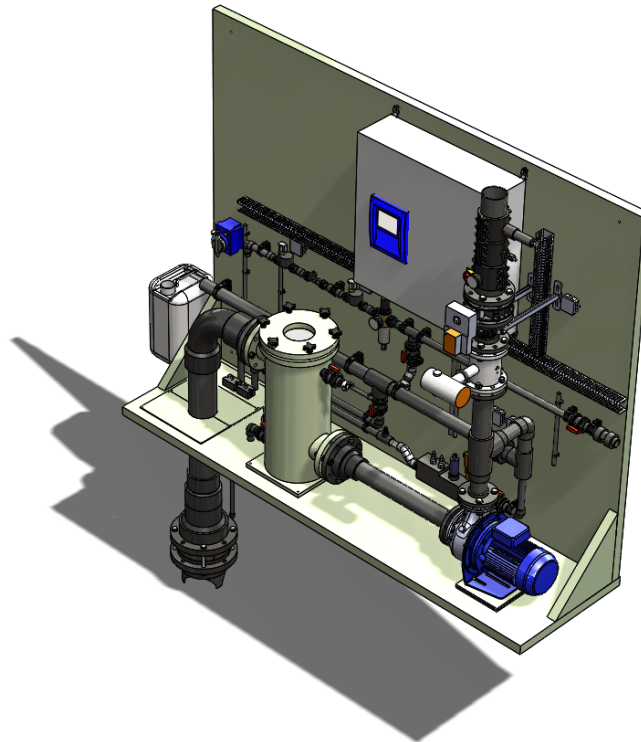
Additional materials included in the quotation:

- Safety equipment:
 - Emergency shower
 - Face protection
 - Eyewash
 - Safety clothing
 - Protective gloves

The Skid.

The technical room is required to house the technical equipment will be pre-installed on a skid

A pump pit has to be located under the skid.



Data logging

A data logging facility has been developed which saves vital parameters. The files can be analysed to ensure that the air scrubber is functioning properly.

The following parameters will be stored:

- PH level
- Conductivity of the process water (level of pollution)
- Pressure difference over the air scrubber in order to record the pollution of the washing bed
- Power consumption of the air scrubber (pump)
- Amount of fresh water consumption
- Amount of waste water production

The service department can log in to the data logger and offer support if needed. The data logger needs an internet connection.

Not included in the quotation (Technical parts):

- Process water pit in which the washing water is collected
- Electrical grounding of the support frames of the scrubbers
- Piping between the Skid and the scrubbers
- Waste water storage and piping
- The technical area in which the control units are placed
- The building in which the air scrubbers will be placed and the pressure chamber
- The fastening devices to mount the droplet catchers. This is part of the roof structure and has to be taken into account in the construction specifications. The droplet catcher has been included in the quotation
- Electrical power supply in the technical rooms 400V connected to switch board of the air scrubber
- Wash water supply into the technical room connected to the water set of the air scrubber,
Ø 32mm, 30 L/min at 2 bar;
- Water into the acid rooms, supply Ø32 mm, 90 L / min at 3 bar for Emergency shower
- Internet connection and cable into the technical room for data logging
- Delivery and storage (IBC) of sulphuric acid (96%) and anti-foaming agent
- Any & all civil works
- Polyester/coating of parts, which are exposed to wash water

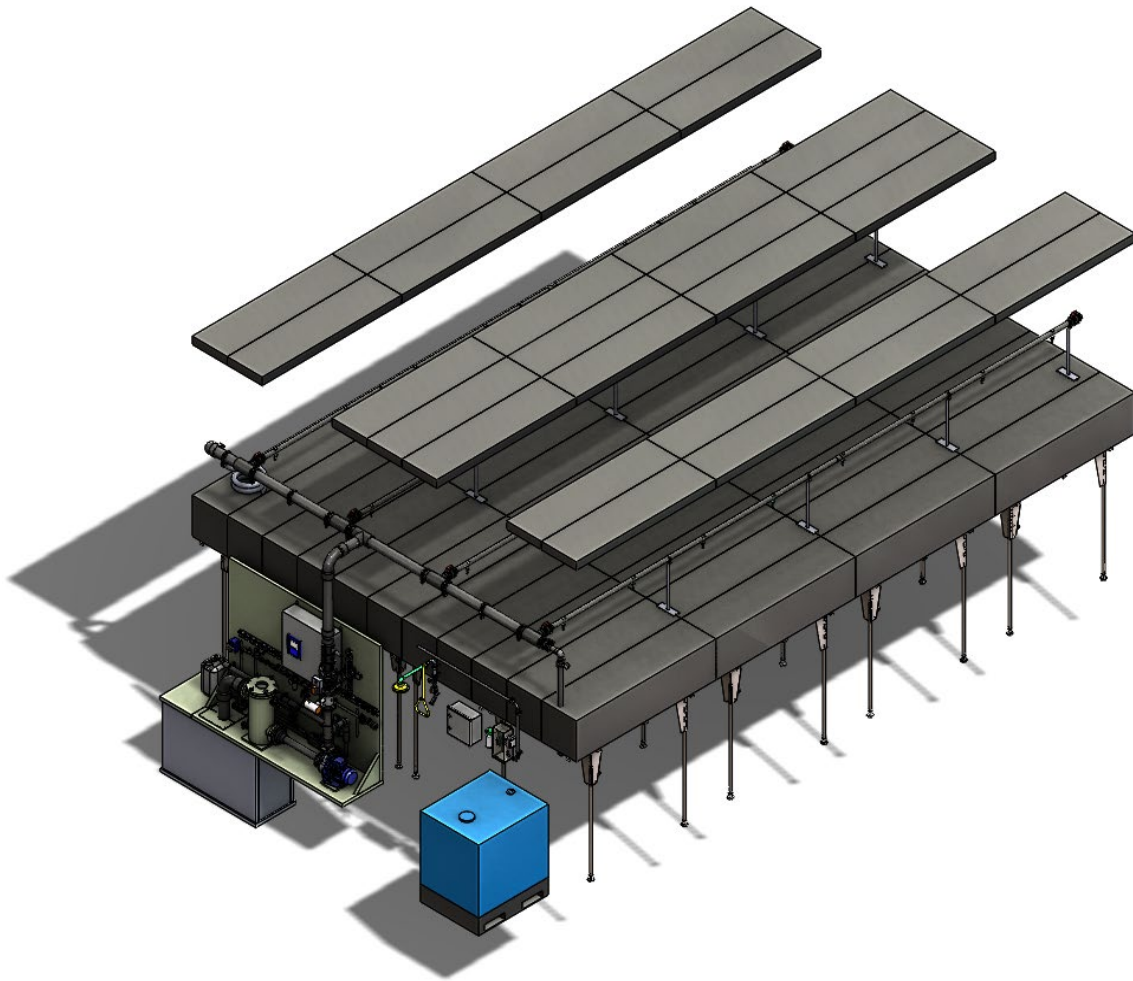
Not included in the quotation (General parts):

- Unloading of delivery vehicles or specialist handling equipment e.g crane
- Mounting/construction of the air scrubbers
- Commissioning and training hours
- Travel and accommodation

Attention points outside the quotation:

- Choice of fans which can overcome total pressure difference of the air scrubber (max. 65 Pa).
- Mechanical ventilation of the technical room. 4x the volume of the room per hour of fresh outside air.
- A provision should be made for the storage of the waste water
- In consultation with the supplier of the acid, a location should be selected for the storage of the acid which is easily accessible
- If the system is not operated according to the requirements of the manual, the warranty will not be applicable
- The supplier cannot be held liable for damage to materials in the building or in the immediate vicinity of the air scrubber (s).
- As part of the RI & E (risk inventory and evaluation) we would like to point out that you are responsible as a user of the installation for the following:
 - Placing of collision protection devices for the supporting structure of the air scrubber, and the waste water silos.
 - The right access to the air scrubber according to EN ISO 14122
 - Adequate grounding of the shell of the air scrubber.

Example of a built-in air scrubber



Delivery:	Ex-Works
Delivery time:	8 to 10 weeks after signing order confirmation. Delivery time is by mutual agreement and is determined on written order confirmation.
Warranty:	All equipment supplied is guaranteed for two years, spare parts only. Costs for labour, travel, delivery etc. are not included and are for the expense of the distributor. Warranty starts upon written commissioning of the installation; All our deliveries, quotations, offers and agreements; Our general conditions apply Inno + BV can be viewed or downloaded from our website. At your request, they can also be sent to you;
Amounts:	All amounts are exclusive of VAT.
Payment:	20% 6 weeks before planned delivery; 75% before first delivery of materials; 5% upon commissioning, at least within 8 weeks after delivery materials;
Payment:	8 days after the invoice date
Validity of offer:	60 days.

Yeasts, fungi and Enterobacteria

The presence of yeasts, moulds and enterobacteria can greatly affect the proper functioning of the air scrubber. The air scrubber itself does not produce yeasts, fungi or enterobacteria.

A number of possible sources can be:

- Inadequate food hygiene (liquid feed where the feed components are not under control)
- Inadequate hygienic storage of food in which these components are given a chance to grow
- Via the drinking water of the animals
- Water supply to the air scrubber

An air scrubber can only function properly if the following points remain below the specified limits:

- Yeasts <10,000 cfu/ml
- Fungi <10,000 cfu/ml
- Enterobacteria <100 cfu/ml



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