

HVLB Light Baffle

The control of light ingress in modern poultry farming is very important; Hydor's Light Baffles allow the farmer to achieve the exact light conditions required to assist in meeting production targets.

Light levels are of particular importance within pullet houses where correct control of light intensity and duration must be precisely controlled to make it possible for the breeder birds to reach maturity at the optimum time to stimulate egg production.

Whilst it is important that the general structure of the building is light proof, the requirement for introduction of fresh air and the extraction of stale, dirty air remains paramount. Hydor light baffles are designed to fit to inlets, outlets and wall and roof mounted fan units to reduce the ingress of light in tunnel, reverse-flow, cross-flow and roof extract ventilated buildings.

With correct fitting of the light baffles, light on a bright sunny day which can reach 150-170,000 lux can be reduced to 0.1-0.15 lux (virtually total darkness).



HV Fan and Light Baffle

The Hydor Light Baffle is attached to the internal side of the HV Belt Drive Fan unit for use in tunnel ventilated buildings. Removal of the fan units internal guard reduces the restriction of airflow caused by the wire mesh and allows the baffle to be fitted without consideration of its increased resistance. Baffles are attached using over centre clips and retainers for easy installation and removal for cleaning. Dimensions (A Square) are shown in the diagram above.

Agri-Jet and Light Baffle

For roof extract ventilated buildings the Light Baffle is attached to the internal side of the Agri-Jet unit at the base of the fan trunk, connected by over-centre clips and retainers. The additional resistance created by the light baffles must be taken into consideration when selecting the fans. To reduce the resistance caused by the light baffle, the size of the baffle area can be increased by a factor of 1.35 compared to the standard size (as per the trunk sizing). Increasing the size reduces the air speed which is critical to resistance. Hydor manufacture an optional Light Baffle to be fitted to the base of the Agri-Jet, which reduces the resistance to below 20Pa.

Reverse-Flow Ventilation

Hydor Light Baffles are fitted to the external side of the Side Wall Easi-Fit units. The external chevron unit is removed and the Light Baffle fitted in its place using the existing retainers and the over centre clips fitted to the baffle. Due to the angular nature of the discarded chevron unit and the smooth aerodynamic vanes of the new light baffle the additional resistance can be ignored. Light Baffles should also be fitted to the roof air inlets if necessary.

Cross-Flow Ventilation

Light Baffles are fitted externally to each inlet. In order to accurately calculate the resistance to the system, the maximum air speed passing through and the size of the inlet must be known.

Most systems will have been installed using low resistances as the inlets are open and unimpeded to the airflow. However if higher pressures are being used by restricting the airflow through the inlet, the additional resistance for the baffle may increase the static pressure above the normal working pressure of the fans being used.

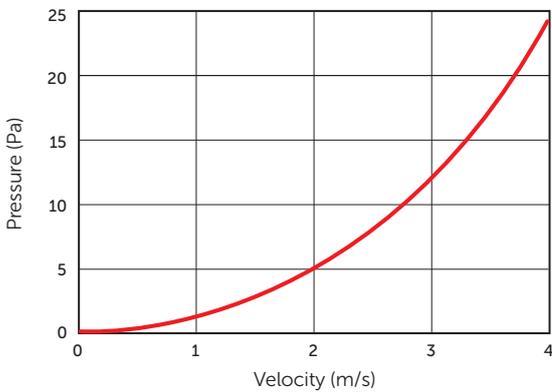
HVLB Light Baffle

light baffle cross section

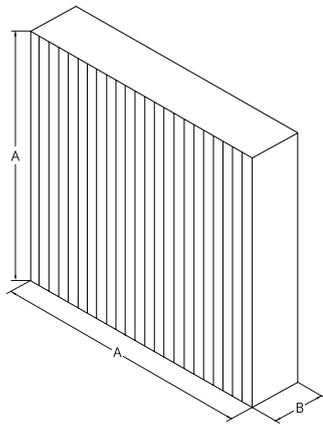


Dimensions in mm.

pressure drop curve



dimensional drawing



features and benefits

- The black, smooth faced, dull finished vanes are constructed from high quality PVC for longevity and resistance to wear and tear, sunlight and high pressure washers. Vanes are assembled vertically to allow for natural drainage and prevention of dirt build up, with no edges or ribs to block the air flow or trap dust
- Hydor light baffles are designed to suit all sizes of fan or inlet with an easy to assemble 'snap action' interlocking method of attaching vanes for trouble free installation and ease of cleaning. Baffles are suitable for high pressure air or water methods of cleaning
- The vane assembly is built into a galvanised steel frame for strength and reliability and facilitates easy fitting to fan units either internally or externally
- The aerodynamic shaped double curved vanes of the baffles allow air to pass through easily with minimal resistance whilst absorbing the light and decreasing its intensity. Vanes are set 25mm apart to give optimum light reduction and low resistance to air flow
- Due to the pressure drop or resistance, the resistance decreases as the size of the light baffle increases. This is because resistance (Pa) is directly proportional to the velocity² of the air passing across or through the obstruction
- The slower the speed of the air, the less resistance. This should be considered when adding baffles to fans and inlets. The graph opposite provides an indication of the pressure drop against air velocity

dimensions

	A	B
HV800	960	250
HV1000	1150	250
HV1250 (1.1 kW)	1380	250
HV1250 H (1.5 kW)	1380	250
HV1500	1495	250
HV2000	1930	250

Dimensions in mm.

ISSUE 1. FEB 2017.