

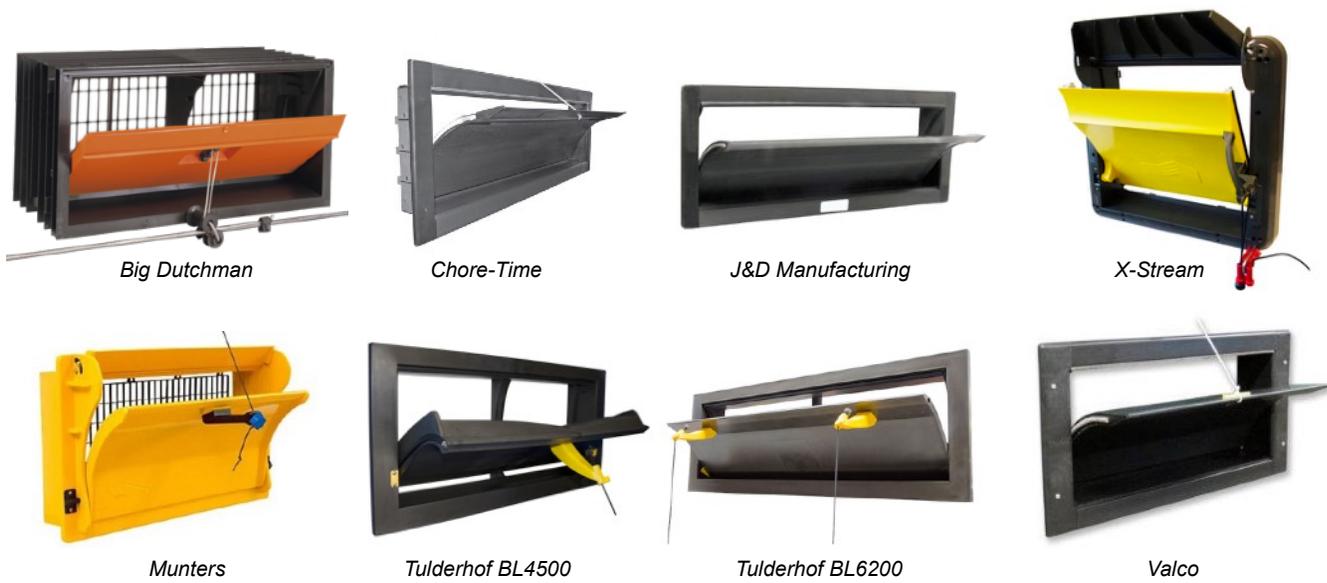


MINIMUM VENTILATION TECHNOLOGY UPDATE.

- By Dan Henslee

Providing minimum ventilation during the winter months can be challenging. In the cooler months when the ventilation rate is lower, the objective is to provide properly directed ventilation. PMSI is controlling an increasing number of modular minimum ventilation inlets (see below). These smaller inlets are designed to direct the air to the ceiling, then to the center of the house, and then down towards the birds. Achieving the right ventilation during cold weather will depend on inlet opening size, design, and how it's controlled, along with many other factors. Because cage free birds are able to migrate, it's important to consider how to adjust the incoming air accordingly when the building is being designed. Including several small zones of inlets sized specifically for minimum ventilation allows the baffles to be selected for operation at their optimum opening for control rather than almost pinched closed.

Developments in the field of ventilation concerning air handling are steadily progressing and becoming increasingly complex. Below I have listed some of the minimum ventilation inlets PMSI has interfaced with during the past few years.



Big Dutchman

Chore-Time

J&D Manufacturing

X-Stream

Munters

Tulderhof BL4500

Tulderhof BL6200

Valco

Pictures are to help you familiarize with different products in the market, and do not represent an endorsement over other brands that are available.

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Ventilation Solutions for Minimum Ventilation Using PMSI Controls

Two ways PMSI Software helps simplify the process of ventilating your house during cold weather:

- **Fan Rotation/Auto Controller Sequence Changes** - Even though inlet design and control is the key factor in poultry house ventilation, at low ventilations there are still advantages to incorporating specialized fan controls to help maintain a uniform environment. One way that PMSI does this is by selecting the first stages of fans in several similar size stages specifically chosen for different patterns of heat removal, and then providing settings that allow the producer to frequently rotate between those stages throughout the low-stage ventilation period. This fan rotation helps to alleviate consistent warm and cold spots in the building by frequently changing the direction of air traveling through the barn.
- **Intermittent Fans** - Sometimes there are reasons to cycle fans on and off rather than having them operate continuously. PMSI offers several ways of doing this depending on the needs of the specific operation. Timed fans offer a basic, fixed minimum air exchange when temperature based ventilation alone isn't enough to achieve desired air quality. Pulsed fans allow periodical increases in the airflow to help clear dust, moisture, and/or ammonia from the building. Both pulsed and timed fans can be designed to adjust with outside temperature if advantageous for your design. Scheduled fan purges are available in several different configurations to allow a producer to schedule a programed increase in ventilation at specific times in the production day (for instance before peak lay, after barn cleaning, etc).

PMSI Provides Integration of Different Minimum Ventilation Systems For Efficient Performance

The size and design of an inlet is an important factor in determining how the air is directed. In the Poultry Industry we are seeing a strong emphasis on the right ventilation inlet and fan, and how they are controlled together. The desired end result is useful air exchange, controlling moisture and creating a specific air flow pattern; preventing the birds from getting too warm or too cool. This is especially important in cage free production where the birds are able to move around in response to their preferred environmental conditions.



TECH TIP - Manual Motor Disconnect

Motor maintenance is a standard part of keeping your poultry building running efficiently. Motors equipped with a manual motor disconnect have an advantage. This device is mainly used to switch motors off manually and provides a means of "lockout tagout" as required by OSHA. For example, If you are troubleshooting a motor that runs parallel to other motors, you may only want to replace that motor without interrupting the other motors in that series.

Using a manual motor disconnect for each motor, you can choose which motor to shut off for repair while the other motors continue running normally. You can purchase motor disconnects from your electrician or contact PMSI at 616-421-2600.



Examples of motor disconnect

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