

## Managing the complete barn environment for high performance.

Vic Tri-Star ventilation combines three ventilation systems into one powerful system:

- Natural ventilation
- Tunnel ventilation
- Super Cool High Pressure Misting

### Tri-Star in winter:

- Supplies clean, fresh air evenly throughout the structure.
- Removes excess moisture. Eliminate wet ceilings.
- Removes manure gases, pathogens and other contaminants.

### Tri-Star in summer:

- Significantly reduces heat stress.
- Provides high levels of air exchange.

Tri-Star allows you to expand your barn or add more ventilation without changing the control.



The bottom line with dairy ventilation is whether the cows are comfortable and their daily dry matter intake is sufficient for maximum milk production and reproduction. This is Tri-Star.



## NATURAL VENTILATION WITH TRI-STAR

Minimum ventilation is the most important requirement of natural ventilation



### VIC CHIMNEY

- Vic insulated natural chimneys work like a fireplace, once the flue is warm it keeps pulling air out of the barn. Opening around the damper allows warm, moist air to escape along the sides and keeps the chimney flue warm.
- The Expert Tri-Star allows up to four chimney damper outputs for maximum design or expansion flexibility.



### RELATIVE HUMIDITY PROBE

- Expert Tri-Star allows up to 2 inside and 1 outside probe.
- Using the Relative Humidity Probe ensures that the chimneys and panels are adjusted to maintain the desired moisture conditions. The minimum ventilation rate can be set precisely to the cows needs.



### VIC NATURAL PANEL

- Expert Tri-Star operates up to 8 independent sidewall panels.
- Panels start opening in very small increments. The increment increases as the panel continues to open.
- De-icing cycle is activated when a panel has not moved for a selected period of time when the outside temperature is below the selected value.
- All panels will go through the de-icing cycle at different times to avoid large amounts of cold air entering the building at one time.
- Security setting based on actual barn temperatures rather than the set point temperature is insurance against freezing up the barn with too much airflow.
- Steel on outside of panel for nice appearance and long life.
- Plastic on inside of panel for easy cleaning.
- Aluminium frame for rigidity and durability.



### TEMPERATURE PROBE

- The Expert Tri-Star allows up to two probes per panel plus one for outside temperature.



### ACTUATOR

- Vic Heavy Duty Actuators with potentiometer.



## WIND COMPENSATION

- If either the wind speed or wind direction are unfavorable for the current ventilation in the barn the Expert Tri-Star will reduce the panel opening to compensate for the wind. This prevents bedding loss from the stalls.



## VIC WIND BREAKER

- Vic Wind Breaker also helps to cut wind speed before it enters the barn.

## TUNNEL VENTILATION WITH TRI-STAR

When temperature rises, tunnel ventilation effectively reduces the actual temperature perceived by the cows.

Heat stress creates huge challenges for dairy cows:

- Lower feed intake
- Milk production drop
- Drop in milk fat level
- Depressed immune systems
- Decreased fertility - shorter heats, silent heats, lower conception rate
- Increased days open



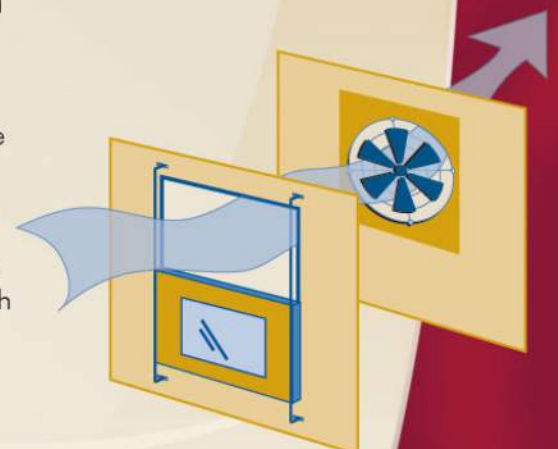
## VIC HIGH VOLUME 54" TUNNEL FAN

- Vic tunnel fans move high volumes of air, reducing the number of fans needed to create an effective air speed down the barn. Vic's high CFM/watt keeps power cost lower than conventional fans.
- Fiberglass housing does not change shape in hot weather, eliminating further reduction in the CFM output.



## TUNNEL VENTILATION

- Expert Tri-Star control provides a smooth transition from natural to tunnel modes and from tunnel back to natural. Fans start and shut-off and panels open and close in programmed stages to eliminate any ventilation gap during the transition.
- Expert Tri-Star checks the outside temperature before starting the tunnel mode. If the outside temperature is below the selected safety temperature it will not go into tunnel mode.
- Expert Tri-Star provides an automatic fan rotation feature where the fan that has been used least is turned on ahead of fans which have been most recently used. This feature can be assigned to any fans. Increases the lifespan of the fans.





## TRI-STAR REDUCES HEAT STRESS



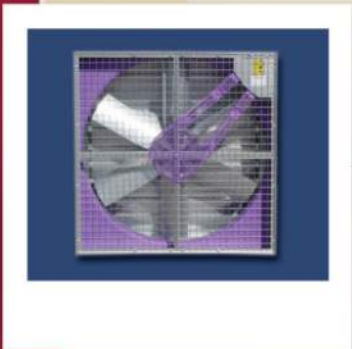
### SUPER COOL HIGH PRESSURE MISTING

- As temperature rises, humidity comes down and the Super Cool increases the misting rate and the cooling effect.
- If the humidity level rises over the selected RH limit, the Super Cool automatically reduces the misting rate.
- Super cool keeps modulating up and down as needed, providing the maximum cooling possible under the existing temperature and humidity conditions.



### TIV CARD

The optional TIV card (Time Integrated Value) modifies the Expert Tri-Star decisions when cow heat stress is perceived. The TIV value is the average inside temperature for the last 12 hours. When this average is higher than the current temperature the TIV will indicate that the cows have cumulative heat stress and the ventilation and cooling systems will operate for a longer period to cool the cows as compared to a conventional stage controller. In effect the TIV tries to over-cool the cows once heat stress has occurred to compensate for periodic heat stress.



### CIRCULATING FAN

- Circulating fans do not provide the same level of effective cooling as tunnel but in conjunction with Super Cool High Pressure Misting it can be used as an alternative to tunnel where tunnel is not practical.
- Expert Tri-Star allows up to four stages of circ fans with possibility of 2 of these stages being variable.
- Select the start and stop temperatures for each stage.
- Expert Tri-Star will monitor the difference between all assigned temperature probes and if the difference is too high Expert Tri-Star will activate a circ fan stage to reduce the difference.

Authorized dealer:

GSI GROUP



**GSI Electronics Inc.**

5200 Armand-Frappier, St-Hubert (Quebec) Canada J3Z 1G5  
Toll free: 877-926-2777 Toll free Fax: 877-408-1046  
[www.gsi-electronics.com](http://www.gsi-electronics.com)