

# Vector<sup>®</sup> Low Nox

## Automatic Burner control System

### DESCRIPTION

The Vector<sup>®</sup> burner control has been developed to reduce fuel cost or emissions by optimizing air to fuel ratios in aggregate dryers. The Vector is a self-modulating burner control system that provides efficient and safe control for the heating and drying of bulk materials. System maintenance and troubleshooting have been simplified significantly by the on-board help and self-diagnostics.

### APPLICATION

The Vector burner control is a fully automatic digital control system. It is designed to control the start-up sequence, firing rate, and safe operation of industrial burners and to control the plant draft. The design meets approvals for UL/CUL, FM, and NFPA-86.

### STANDARD FEATURES

- On screen diagnostic
- On screen Help
- Remote location diagnostic (allows Gencor to dial in and troubleshoot your system)
- Graphic display of interlock circuits
- Graphic display of the PLC inputs/outputs and analog values
- Graphic display and annunciation, indicates the current burner function, status, and alarm conditions via the HMI with audible alarm.
- Controller included for Exhaust flow rate. Damper, actuator and/or VFD sold separately.
- Optional VFD bypass available (requires damper installation).
- Flue gas recirculation
- Linkage-Less actuator improves performance using highly accurate and independent position control of air, oil, and gas valves.





# Vector<sup>®</sup> control

- Digitally sets the physical minimum and maximum position for each servo for air and fuel.
- Air to fuel characterization optimizes air to fuel ratios by using up to 10 user programmable points to create air/fuel characterization sets.
- Stores up to 5 separate named air/fuel curves to be used with different mix designs and fuels.
- Feed forward maintains the product temperature through early detection of changes in production rate and recycle material percentage, allowing the burner control to quickly correct the firing rate as the production changes.
- Advance temperature detection which provides early detection of moisture or load change, allowing the burner to correct the firing rate in order to maintain the product temperature.
- Post purging when oil is selected as the primary fuel, this provides a means at operator discretion, to burn the fuel that remains in the gun nozzle on shutdown.
- Slidewire monitor will place the burner in a safe condition (low fire) if the burner position feedback signal fails.
- Automatic startup position opens the Burner to a stored firing rate for initial High Fire Position.
- Automatic crossover switches the control to automatic mode when the product temperature is within twenty degrees (°F) of the operating set point.
- High exhaust gas temperature limit is adjustable and will force burner to the low fire position if the "stack temperature" exceeds this limit.
- Safety exhaust gas temperature limit is adjustable for high "stack temperature" limit. The burner will shut down if the exhaust gas temperature exceeds this limit.
- Over temperature limit will force the burner to go to the low fire position, if the product temperature exceeds the set point by fifty degrees (°F).
- Digital burner position meter indicates the percentage of the burner-firing rate.
- Digital flame strength meter gives the operator an assurance of flame presence and strength.
- Digital exhaust fan damper position meter which indicates the percentage of the damper opening or VFD speed.
- Digital draft meter which indicates the measure of draft in the drum."
- "First out" logic indicates which limit shut down the system.
- Remote monitoring allows Gencor to dial "First out" logic indicates which limit shut down the system.
- Safety startup and monitoring system includes all inputs and conditions as required to comply with NFPA, FM, UL, and CSA requirements.
- Ultraviolet flameguard is UL/CUL listed, as well as FM approved. Flameguard is wired to combustion safeguard interlocks and the control panel, in accordance with NFPA 86 standards.

## OPTIONS

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- Genco 6" chart recorder provides for greater accuracy, readability, and reliability. Recorder has self contained electronics and dual pen drive.
- Flame management display module
- Modifiable for retrofit applications
- USB port for optional mouse and printer
- Multi-Language support provides seamless conversion to English, Spanish, French and German.

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