

Slow to Reach Setpoint – Gas Fired

WARNING: Setup and maintenance of the equipment should be performed by qualified personnel, who are experienced in handling all facets of this type of combustion system. All combustion systems are capable of producing violent explosions or fires that may result in equipment damage, personal injury or possible death when improperly setup, operated, or maintained.

There are several things that could cause the equipment to be slow to heat-up. The most common causes are:

- Recirculation blower fan efficiency.
- Gas regulator malfunction
- Improper gas pressure, gas pressure below designed range (*See Equipment Nameplate for Actual Design Values*):
 - Check supply static gas pressure, typically range of 8.0" to 10.0" WC (*natural gas*), 10.0" to 12.0" WC (*propane*), +/- 1½" WC at the customer connection.
 - Check burner input gas pressure (*static pressure or differential gas pressure, refer to the burner vendor documentation for setup data*).
- Improperly sized supply piping to equipment (*typically 1 to 2 pipe diameters larger than equipment gas train*).
- Fresh-air and exhaust damper position (work chamber pressure and exhaust volume).
- Volume and weight of products being processed.
- Ability of the Product to absorb the heat.
- Process temperature(s), Ramp time(s).
- General condition of equipment:
 - Doors.
 - Door seals.
 - Louvers.
 - Recirculation blower fan.

CHECK LIST ITEMS

- Are the Recirculation fan(s) rotating in the proper direction? *Check the rotation arrow near fan drive assembly.*
- What are the cold motor amps of the Recirculation fan(s) motor? Check the motor amps with oven at ambient! (*with equipment at room temperature*). Low motor amps (*below 75% of nameplate*) could indicate incorrect fan rotation, an obstruction (*dirt or debris*) in the fan wheel or in the return or supply air duct-work or that the fan is operating below rated RPM, or the louvers are not adjusted properly.
- What is inlet the supply static gas pressure, typically range of 8.0" to 10.0" WC (*natural gas*), 10.0" to 12.0" WC (*propane*), +/- 1½" WC at the customer connection.
- Is the supply gas piping properly sized to equipment (*typically 1 to 2 pipe diameters larger than equipment gas train*)?
- What is the burner input gas pressure at high fire (*static pressure or differential gas pressure*), refer to the burner vendor documentation for setup data (*capacities and pressures*).
- What is the condition of the door seals? The seals should be in good condition, they should be pliable with no rips or tears, and should mate with the door skin properly.
- What is the work chamber air pressure with all fans operating? Normally it is desirable to operate the oven with the dampers close as much as possible while maintaining the desired chamber pressure to reduce amount (CFM) of air being exhausted. Operating with exhaust damper open

greater than fifty (50) percent will increase the amount of energy required to heat the incoming fresh air.

On equipment operating up to 650°F, the chamber pressure should be neutral or slightly positive with respect to the room or work space the equipment is located. (slightly positive is preferred) On high temperature units (operating above 650°F) running pressurized can cause warping problems, it is generally recommended that you operate as close to a neutral condition as possible. The chamber pressure can be varied by making adjustments to either the fresh air or, the exhaust dampers.

An extreme negative condition would be with the exhaust damper full open and the fresh air damper full closed.

An extreme pressure or positive condition would be with the exhaust damper full closed and the fresh air damper full open.

- The time required to bring the product to setpoint is dependent on it's volume and it's ability to absorb the energy. Position the products to allow maximum penetration of the air through the product (*don't stack or rack product, one on top of the other*).

We hope you will find this information useful. THANK YOU for contacting us and allowing us to be a service to you. Please contact us at 1-800-473-7373 if you have any questions.

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