

When a commercial heating system refuses to light, short cycles, or drops out in the middle of a cold Denver morning, the problem usually feels urgent long before anyone knows the cause. Tenants get uncomfortable fast. Staff start bringing in space heaters. Property managers field calls from every direction at once. In older buildings, a failed ignition sequence can also expose a second problem, because a heater that has been limping along for months often chooses the coldest week of the year to quit completely.

Pilot and ignition issues sit near the center of many winter service calls. They sound simple on paper. The unit will not start, the pilot will not stay lit, or the burners fail to ignite. In the field, though, those symptoms can come from several very different faults. A weak thermocouple, a contaminated flame sensor, a cracked igniter, low gas pressure, poor combustion air, a bad ignition control module, or a pressure switch issue can all produce similar complaints. Good troubleshooting depends less on guessing and more on reading the sequence, checking the safeties, and understanding how the equipment is supposed to behave at each stage.

That matters in Denver more than people sometimes realize. Commercial systems here deal with long heating seasons, wide temperature swings, dust, altitude-related combustion factors, and in many buildings, rooftop exposure that accelerates wear. When people search for Commercial Heating Repair Denver, they are often looking for more than a fast arrival time. They need someone who can sort out whether the no-heat call points to a dirty sensor, a dangerous venting issue, or an aging system that has reached the point where repair costs deserve a harder look.

Why pilot and ignition failures cause so much disruption

A commercial heating system does not just make warm air. It supports business continuity. In an office, a cold floor can send productivity down quickly. In a restaurant, comfort affects table turns and guest perception. In warehouses, heating problems can affect inventory, employee safety, and even sprinkler protection in certain areas. In schools and churches, one dead unit can make large spaces nearly unusable.

Pilot and ignition problems are especially disruptive because they often appear intermittent at first. The system might fire once, fail on the next call for heat, then come back after a reset. That inconsistency encourages delays. Someone assumes it was a fluke. By the time a technician is called, the failure has become hard or nearly hard, and the building has already spent hours uncomfortable.

In practice, these failures usually follow patterns. An older standing pilot system may struggle because the pilot flame is weak or unstable. A newer intermittent pilot or direct spark ignition system may fail because the control

board never proves flame. Hot surface ignition systems tend to show wear more predictably, but even there, supply voltage issues or dirty burners can throw off the sequence.

Knowing what kind of ignition system you have

Before anyone can troubleshoot intelligently, they need to know what they are looking at. Commercial equipment varies widely by age and application, but most heating systems fall into a few familiar categories.

Older units may use a standing pilot, where a small flame burns continuously and lights the main burners when the gas valve opens. These systems are straightforward, but they rely on a pilot assembly staying clean and a thermocouple or thermopile producing enough signal to keep the gas valve open.

Other units use intermittent pilot ignition. Here, the pilot lights only when there is a call for heat. Once the control proves the pilot flame, the main burners open. These systems add efficiency and safety but introduce more components into the chain, including spark electrodes, flame proving circuits, and control boards.

Many rooftop units and furnaces use hot surface ignition. An igniter glows, gas opens, burners light, and a flame sensor confirms ignition. These systems work well, though igniters are consumable parts in real life, even if no one likes calling them that.

Direct spark ignition systems skip the pilot altogether and light the main gas stream directly. When they work properly, they are quick and reliable. When they do not, diagnosis requires careful attention to spark, grounding, gas delivery, and flame rectification.

Each design fails differently. The symptom may sound the same from the office manager on the phone, but the repair path can be completely different.

What a technician listens and looks for first

A lot can be learned before a tool bag is fully open. The first step is not replacing parts. It is observing the sequence of operation.

Does the thermostat or building control actually call for heat? Does the inducer motor start? Does the pressure switch close? Is there spark? Does the igniter glow? Does gas flow? Do burners light and then drop out after two or three seconds? Does the blower come on too early or too late? These questions narrow the field fast.

On a cold roof in January, experienced techs develop habits that save time. One is to stand still for a minute and watch a full cycle without interfering. Another is to notice the obvious physical clues that get missed in a hurry, such as scorch marks near the burner vestibule, water in the cabinet, brittle wire insulation, a loose ground, or an access panel that never fit quite right after the last repair.

A pilot or ignition complaint can also be a symptom rather than the root cause. I have seen units condemned for “bad boards” when the real issue was a blocked flue causing rollout trips. I have also seen repeated flame sensor replacements when the true problem was poor grounding through a corroded burner rack. The board was doing exactly what it should have done. It shut the system down because the signal it needed was not there.

The most common pilot-related failures

Standing pilot systems are less common than they once were, but many commercial properties in Denver still operate older appliances and package units where pilot issues remain relevant. A pilot that will not light or will not stay lit usually comes down to a short list of causes.

The pilot orifice may be dirty. Dust, rust flakes, or debris can reduce flame size enough that the thermocouple never heats properly. The flame might still be visible, but it is small, lazy, or lifting away from the sensor.

Thermocouples and thermopiles age out. They live in heat, handle vibration, and over time produce weaker signals. The pilot lights fine, the operator releases the button, and the flame drops out immediately or after a few seconds. That does not always mean the sensor is bad, but it is a familiar pattern.

Gas supply issues also show up here. Low inlet pressure, undersized piping, regulator problems, or a partially closed service valve can create weak pilot performance. At altitude, marginal gas delivery tends to expose itself sooner because there is less room for error in combustion performance.

Drafts inside mechanical rooms and rooftop cabinets cause trouble too. A pilot flame that looks acceptable in calm conditions can flutter or lift when the blower starts, when doors **Commercial Heating Repair Denver** open, or when negative building pressure changes. In restaurants and older mixed-use buildings, makeup air imbalances can create surprisingly erratic behavior.

Ignition failures on modern commercial equipment

Newer equipment usually points to ignition rather than pilot problems, but the underlying logic remains the same. The system must move through a sequence and prove each step. If any step fails, the control stops the process and often retries before locking out.

Hot surface igniters fail in both obvious and subtle ways. Sometimes they are simply cracked and open. Other times they glow, but not hot enough or in the right position to light gas consistently. A technician who checks only for visible glow can miss a weak igniter that passes a casual visual test but fails under real operating conditions.

Spark ignition systems bring their own quirks. A good spark at the electrode does not guarantee reliable lighting if the electrode is misaligned, the ground path is poor, or the burner carryover ports are dirty. Flame proving then adds another layer. The burners may light, but if the flame sensor cannot verify flame through proper rectification, the gas valve closes almost immediately. To occupants, it looks like the unit tries to start and then gives up.

Flame sensors deserve special mention because they cause so many nuisance calls. In many cases, the sensor is not “bad” in the dramatic sense. It is dirty, oxidized, or reading too weakly because the burner flame pattern has changed. Cleaning can restore operation, but if the flame is unstable due to burner contamination, heat exchanger issues, or gas pressure problems, simply polishing the sensor treats the symptom, not the disease.

Signs that help narrow the fault quickly

A few field symptoms point technicians in useful directions. These clues are not perfect on their own, but they often shorten diagnostic time.

- Pilot lights, then drops out when the reset button is released, often points to a weak thermocouple, poor flame contact, or a faulty gas valve magnet.
- Igniter glows or spark is present, but burners never light, often suggests no gas flow, low gas pressure, a closed valve, or a gas valve/control issue.
- Burners light and shut off within a few seconds, often indicates flame sensing trouble, grounding problems, or unstable burner flame.

- Unit attempts several ignition cycles and then locks out, often means the control is seeing an unsafe or incomplete sequence and is protecting the equipment.
- Failures happen mainly during windy or very cold weather, often points toward venting, combustion air, pressure switch behavior, or marginal gas delivery.

Those patterns help, but they should never replace meter readings and direct observation. Guessing based on symptoms alone is how unnecessary parts get installed.

Denver-specific conditions that change the diagnosis

Commercial heating repair in Denver is not exactly the same as repair in lower, milder climates. Altitude changes combustion characteristics, and while modern equipment is designed with that in mind, field conditions still matter. Burners that are a little dirty, gas pressure that is a little off, or venting that is only partly restricted can push a system from “mostly working” into repeated lockout faster here than in some other regions.

Cold snaps expose marginal components. A pressure switch that closes reluctantly on a cool day may fail outright when snow and wind hit a rooftop unit. Ignition transformers and boards that operate on borrowed time can finally give up when demand becomes continuous. Rubber tubing for pressure switches grows brittle. Condensate lines on high-efficiency equipment freeze or partially block. What looks like a flame failure can begin as an airflow or venting failure several steps earlier in the sequence.

Dust and debris are another Denver reality. Rooftop equipment takes in more than air. Fine dirt, cottonwood fluff, construction debris, and general urban grime settle where they can do real harm. Burner carryover ports clog. Sensors foul. Intake screens load up. If a unit serves a property near ongoing construction, I expect contamination sooner and inspect accordingly.

That is one reason the phrase Commercial Heating Repair Denver should imply more than location. It should suggest local familiarity with climate stress, rooftop wear patterns, and the way commercial systems in this area tend to age.

When the problem is not the ignition system at all

One of the more expensive mistakes in heating service is assuming every no-heat call with a lockout code must be an ignition component failure. Commercial systems shut down for many reasons, and the code or symptom can pull attention toward the end of the sequence even when the real failure happens at the start.

A restricted heat exchanger can alter flame behavior enough to trip rollout or limit safeties. A failing inducer may not generate proper draft, leaving the pressure switch open and preventing ignition entirely. A bad control voltage connection can interrupt the gas valve signal. Condensate backup on a condensing unit can trigger safeties that look unrelated unless the technician knows where to look. Even a cracked ceramic insulator on an igniter wire can create intermittent behavior that mimics a board failure.

This is where experience matters. Good troubleshooting means proving the fault, not naming the nearest part. In larger commercial settings, that discipline saves real money because labor, roof access time, tenant coordination, and after-hours dispatch all add up quickly.

Repair versus replacement, a judgment call owners eventually face

Not every pilot or ignition problem justifies a major conversation about replacement. Many repairs are modest and worthwhile. Cleaning burners, replacing a flame sensor, installing a new igniter, changing a pressure switch

hose, or correcting grounding can restore dependable operation at a reasonable cost.

Still, there is a point where repeated ignition failures tell a bigger story. If a fifteen- to twenty-year-old rooftop unit has a deteriorated heat exchanger, an unreliable gas train, rusted burner assembly, and obsolete controls, the ignition complaint is only the latest symptom. The decision then shifts from “Can it be repaired?” to “Is it smart to keep repairing it?”

Owners usually benefit from a practical framework rather than a hard sales pitch. I look at repair frequency over the last two heating seasons, part availability, condition of the burner section, heat exchanger status, energy use, and how critical the served space is. A warehouse office with temporary workarounds offers different tolerance than a medical office or childcare tenant where heat loss creates immediate operational problems.

Sometimes the right answer is a repair now and a planned replacement in the shoulder season. That tends to be a much better business decision than limping through winter with emergency calls every few weeks.

What preventive maintenance actually prevents

Preventive maintenance is often sold in broad terms, but on ignition systems the benefits are concrete. Cleaning, inspection, and testing reduce nuisance lockouts and catch dangerous conditions before they become emergency calls.

A proper heating maintenance visit should include more than changing filters and glancing at the burners. The technician should verify the ignition sequence, inspect and clean flame sensing components where applicable, check burner condition and alignment, examine wiring and grounds, verify safeties, and assess venting and combustion air paths. Gas pressure checks may also be necessary depending on the equipment and observed symptoms.

For property teams managing multiple units, the operational gain is consistency. Ten rooftop units that all receive real preseason service tend to behave far better than ten units that get touched only after a tenant complaint. The savings are not only in repair cost. They show up in fewer after-hours calls, less tenant disruption, and lower risk of catastrophic failure during extreme weather.

A useful maintenance focus for pilot and ignition reliability includes the following:

- Clean burners, pilot assemblies, and flame sensors before buildup affects flame quality.
- Inspect igniters for cracks, improper positioning, and signs of imminent failure.
- Check venting, intake paths, and pressure switch tubing for blockage, water, or deterioration.
- Verify electrical connections, grounding, and control voltage stability.
- Test operation through a complete heat cycle instead of assuming the unit is fine because it started once.

That kind of maintenance does not eliminate every winter failure. It does remove many of the preventable ones.

What building owners and managers should report during a service call

The quality of the initial information matters more than most people think. “The heat is out” is a starting point, but not much more. Better observations often cut diagnosis time significantly, especially in larger buildings where access and scheduling slow everything down.

If the system has been resetting itself or tripping overnight, say so. If the problem occurs only on colder mornings, mention that. If someone noticed a clicking sound, a brief burner light-off, a gas odor, or repeated

lockouts on the thermostat, those details are useful. If a recent roofing project, electrical work, or controls upgrade happened near the unit, mention that too. Commercial equipment often starts acting up right after unrelated work disturbs venting, wiring, or cabinet integrity.

One memorable call involved a retail suite where the complaint was simple no heat. The actual cause turned out to be wind entering through a poorly reinstalled access panel after another contractor serviced the unit. That changed the burner behavior enough to create erratic flame sensing failures. Without the note that "it started after recent roof work," the diagnosis would have taken longer.

The safety side should never be minimized

Pilot and ignition problems are not merely comfort issues. They can overlap with gas leaks, delayed ignition, rollout, venting failures, and carbon monoxide hazards. A unit that bangs on ignition, trips rollout switches, or shows signs of scorched burner compartments needs careful attention before being placed back in service.

Delayed ignition deserves particular respect. When gas accumulates before ignition and then lights abruptly, the event can damage burners, stress the heat exchanger, and create a very real safety risk. Repeatedly resetting a locking unit without diagnosis is also a bad habit. Controls lock out for reasons, and while some are nuisance issues, others are protecting the equipment and the building.

That is why a professional approach to Commercial Heating Repair Denver has to balance urgency with discipline. Restoring heat quickly matters, but so does proving safe operation before the technician leaves the roof or mechanical room.

A good repair leaves the system stable, not merely running

There is a difference between getting a burner to light once and returning a commercial heating system to dependable service. The first can happen by chance. The second requires understanding what caused the failure, verifying the correction, and checking the surrounding conditions that might cause the problem to recur.

On a proper service call, the final step is not just "unit running on departure." It is watching multiple cycles if needed, confirming flame sense or pilot stability, ensuring safeties are satisfied, and documenting any related issues that may soon need attention. If the heat exchanger is suspect, if the venting is compromised, or if the gas pressure is marginal, those notes should be clear. Owners deserve to know whether the fix solved the root problem or bought time against a larger one.

That clarity is what separates routine parts changing from solid commercial service. Pilot and ignition problems can be straightforward, but they are rarely best handled by assumption. In Denver's climate, with commercial buildings depending heavily on rooftop and packaged equipment through long winters, the best outcomes come from careful diagnosis, realistic recommendations, and maintenance that treats ignition reliability as a system issue rather than a single part problem.

Climate Alignment
Phone number: +17204141923

FAQ About Commercial Heating Repair Denver

What is the $5000 rule for HVAC?

The $5,000 rule is a simple calculation homeowners use to decide whether to repair or replace an HVAC system.

How much does it cost to replace a commercial HVAC?

The average cost to replace a commercial HVAC system typically ranges from $8,000 to $30,000+ for small buildings, $25,000 to $80,000 for mid-sized spaces, and can easily exceed $150,000 to $500,000+ for large facilities, complexes, or chiller setups.

How often should commercial HVAC units be serviced?

Commercial HVAC units should be professionally serviced at least twice a year, ideally in the spring and fall before peak cooling and heating seasons begin.