



BUILDINGS BULLETIN 2015-035

OTCR

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Purpose: This document establishes acceptance criteria for installation requirements of gas-fired direct vent space-heating appliances manufactured with a CO detector and used for providing heat in rooms for sleeping purposes in accordance with the NYC Construction Codes.

Related Code Section(s):

AC 28-113.2.3	FGC 503.8
FGC 303.3	FGC 601.3
FGC 303.3.1	FGC 503.2.2
FGC 503.4.2	

Related Bulletins: 2013-004

Subject(s): Space-heating appliance, gas-fired, direct vent; Space-heating appliance, sleeping room; Gas-fired heater, direct vent, sealed combustion; Carbon monoxide detectors, sleeping rooms.

Background: Section FGC 303.3 prohibits the location of gas-fired direct vent space-heating appliances in rooms for sleeping purposes with the exception for those appliances that comply with Section FGC 303.3.1 that are deemed to be located outside of the sleeping room.

Section FGC 303.3.1 prescribes the use and installation of gas-fired direct vent space-heating appliances used for providing heat in rooms for sleeping purposes (gas-fired direct vent space-heating appliances). Accordingly, gas-fired direct vent space-heating appliances must be manufactured with an integral, surface mounted or remote (see evaluation criteria) CO detector. This Bulletin establishes acceptance criteria for installation requirements of gas-fired direct vent space-heating appliances supplied with a CO detector.

Description: Gas-fired direct vent space-heating appliances:

- are used for providing heat in rooms for sleeping purposes
- are factory assembled and manufactured with integral factory assembled carbon monoxide detectors interlock with automatic main gas shut-off valves,
- are constructed and installed so that all air for combustion is derived directly from the outside atmosphere and all flue gases are discharged directly to the outside atmosphere,
- are installed through a sleeve located in an exterior wall, and
- are supplied with an automatic gas burner, gas pressure regulator and different controls with or without cooling section, and shall be constructed as a sealed

combustion chamber.

Acceptable gas-fired direct vent space-heating appliance shall be factory assembled and manufactured with an integral, surface mounted or remote (see evaluation criteria) CO detector.

Evaluation Scope: NYC Construction Codes

Evaluation Criteria: Pursuant to section AC 28-113, the Office of Technical Certification and Research recognizes gas-fired direct vent space-heating appliances used for providing heat in rooms for sleeping purposes in accordance with the following:

Space-heating appliance – Gas-fired direct vent space-heating appliance shall be tested, designed and evaluated in accordance with section FGC 622. Acceptable gas-fired direct vent space-heating appliances shall be listed and labeled by an approved agency in accordance with section AC 28-113.2.3.

CO detector – The CO detector must be listed and labeled to UL 2034¹, “Standard for Single and Multiple Station Carbon Monoxide Alarms”, and UL 2075², “Gas and Vapor Detectors and Sensors”. The detector shall be installed in accordance with national, state and city building codes and shall be installed in accordance to manufacturer’s installation instructions.

Factory assembled space-heating appliance and CO detector – Factory assembled space-heating appliance and CO detectors shall be manufactured and installed in accordance with the following:

- Gas-Fired direct vent space-heating appliances shall be hard-wired connected to a listed and labeled CO detector.
- The CO detector may be installed in the following manner:
 - integral to the unit
 - on the surface of the unit, or
 - remotely, but hard-wired no further than a maximum of 5 feet from the appliance.
- The gas-fired direct vent space-heating appliance shall be tested for compatibility in conjunction with the supplied CO detector, installed in a manner identical to intended actual installation, and be labeled for its purpose by an Approved Agency and specifically identified in the evaluation report of the gas-fired direct vent space-heating appliance for this purpose.
- Gas-fired direct vent space-heating appliances shall be hard-wired to the CO detector in a supervisory signaling mode. If the CO detector connection is not sensed, the gas-fired direct vent space-heating appliance shall not initiate a startup sequence and shall alert the operator to the fault condition.
- Gas-fired direct vent space-heating appliances shall be supplied with CO fault indicator easily visible and recognizable to the operator.
- Gas-fired direct vent space-heating appliances shall be equipped with a manual restart control. Automatic reset is not permitted.

Note:

1. CO detectors installed with gas-fired direct vent space-heating appliance shall be provided in addition to code required CO detector devices in dwelling units.
2. CO detectors installed with gas-fired direct vent space-heating appliance shall not be interconnected to other CO detecting devices in the dwelling unit.

Acceptable gas-fired direct vent space-heating appliance shall be factory assembled and

manufactured with an integral CO detector.

Conditions of Acceptance: Gas-fired direct vent space-heating appliances used for providing heat in sleeping rooms shall be installed and maintained in accordance with the NYC Construction Codes and other applicable provisions including but not limited to the following:

A. Installation Requirements

1. Installation requirements shall be in accordance with the manufacturer's instructions, the applicable listing and the conditions of this bulletin.
2. Gas-fired direct vent space-heating appliances use in rooms for sleeping purposes shall only be installed by a master licensed plumber.
3. A licensed master plumber shall file for a permit with an "LAA1" or a "PW1" application.
4. The unit shall be installed with natural gas only.
5. Clearances from adjacent combustible surfaces shall meet the minimum clearances indicated by the manufacturer's instruction and the listing agency.
6. Clearances from adjacent openings shall be in accordance with the following:

- For packaged terminal air conditioners (PTAC's) and packaged terminal heat pumps (PTHP's) the bottom of the vent terminal and the air intake shall be located at least 12 inches above finished ground level and the following:

Appliance input rating (BTU per hour)	Vent termination clearance to any air opening into building
10,000 or less	6"
Over 10,000 but less than 50,000	9"
Over 50,000	12"

- For all other equipment all vent termination clearances shall be in accordance with Section FGC 503.8.
7. Gas-fired direct vent space-heating appliances for use in rooms for sleeping purposes shall be labeled as per section AC 28-113.4. All shipment and deliveries of materials shall be accompanied by a label certifying the material shipped or delivered are equivalent to those tested and approved.

B. Maintenance

Gas-fired direct vent space-heating appliances, carbon monoxide detectors installed in sleeping rooms pursuant to 1 RCNY §28-02 or section BC 908.7, and carbon monoxide detectors installed in conjunction with gas-fired direct vent space heating appliances shall be maintained in accordance with the manufactures instructions and the conditions of their listing.

- Referenced Standards:**
1. UL 2034-08 – "Standard for Single and Multiple Station Carbon Monoxide Alarms"
 2. UL 2075-07 – "Gas and Vapor Detectors and Sensors"