

Door air heaters, Direct fired makeup air heaters, and Non-recirculating direct gas-fired industrial air heaters

This bulletin has been jointly developed by Safety Services and the Gas Sub Council to inform designers, vendors, builders, contractors and owners of the minimum requirements to ensure safe installation of gas appliances in Alberta. Under the **Safety Codes Act** it is the responsibility of the owner, vendor, contractor, and user to ensure that the installation and operation of appliances comply with the *Act* and are in accordance with the **CSA-B149.1 Natural Gas and Propane Installation Code**. The installation of gas appliances and equipment shall comply with the requirements listed below.

The increased application of **used** gas appliances in commercial and industrial applications has created some challenges when applying the current gas codes.

- CSA-B149.1 Natural Gas and Propane Installation Code identifies the need for the installer to ensure that the appliance is operating safely when installing used appliances. Clause 4.5 .6. states that a used appliance shall be inspected and determined to be safe for continued use by the installer before reconnection to supply piping or tubing.
- The products covered by door heaters 7.19 and direct fired make-up air heaters 7.20 are legacy products that have not been manufactured for over 10 years. There is a used market for these heaters and they can still be functional, if well maintained, after many years. Because of this used market they will often be installed on renovations or new projects. These products can only be installed under the requirements identified specifically for that product under current code.
- Clause 7.19. Direct-fired door air heaters

A direct-fired door air heater is a direct fired heater certified to be in compliance with CGA 3.12 or CAN1-3.12-78R (1996) or earlier editions.

A door heater that was certified to the now withdrawn standard is a direct fired heater that is allowed to draw 100% of its air from the occupied space. It is also allowed to add up to 10ppm of carbon monoxide to the airstream (the modern version of this product, a DFIAH, must draw 100% outside air and is limited to 5ppm CO). The reason this is allowed is that it is interlocked with an overhead door that must be 80% open. The infiltration of outside air through the open door dilutes the products of combustion.

- Clause 7.20. Direct-fired make-up air heaters (DFMAH)

A direct-fired make-up air heater (DFMAH) is a direct fired heater certified to be in compliance with CGA 3.7 or CAN1-3.7-77 R(1996)) or earlier editions.

Direct-fired make-up air heaters (DFMAH) are often re-used. These appliances have not been manufactured since about 2002. If properly maintained and serviced these appliances can provide many years of safe reliable operation.



Issue of this STANDATA is authorized by
the Chief Gas Administrator

[Original Signed]
Sidney Manning



- Clause 7.21. Non-recirculating direct gas-fired industrial air heaters (DFIAH)

A non-recirculating direct-fired industrial air heater (DFIAH) is a direct fired heater certified to be in compliance with the 1999 or later editions of ANSI Z83.4/CSA 3.7.

A non-recirculating DFIAH may be used as a door heater, a make-up air heater, or a space heater, or for a combination of these functions. When a non-recirculating DFIAH is used as a door heater or a make-up air heater, the requirements of Clause 7.21 shall supersede the requirements of Clause 7.19 for door heaters and Clause 7.20 for make-up heaters.