



**CSA/ANSI 13.1:22**  
National Standard of Canada  
American National Standard



# Combined heat and power appliances



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# Contents

Interprovincial/Territorial Gas Advisory Council	4
Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories	6
Technical Committee on Gas Appliances and Related Accessories	9
Z21/CSA Joint Technical Subcommittee of Standards for Combined Heat and Power Appliances	11
Preface	13
<b>1 Scope</b>	<b>15</b>
1.1 Inclusions	15
1.2 Ratings	15
1.3 Exclusions	15
1.4 Terminology	15
1.5 Units of measure	16
<b>2 Reference publications</b>	<b>16</b>
<b>3 Definitions and abbreviations</b>	<b>20</b>
3.1 Definitions	20
3.2 Abbreviations	27
<b>4 Common requirements</b>	<b>27</b>
4.1 Construction	27
4.1.1 General construction and assembly	27
4.1.2 Materials	28
4.1.3 Gas supply lines	30
4.1.4 Gas hose assemblies	32
4.1.5 Automatic valves and safety shutoff valves	33
4.1.6 Gas appliance pressure regulators	33
4.1.7 Adjustment of minimum input rating	34
4.1.8 Condensate disposal	34
4.1.9 Venting systems	34
4.1.10 Electrical equipment and wiring	37
4.1.11 Interconnection systems	47
4.1.12 Energy storage battery systems	47
4.1.13 Instructions	47
4.1.14 Marking	51
4.2 Performance	54
4.2.1 General	54
4.2.2 Test gases	57
4.2.3 Category determination	57
4.2.4 Rain test	60
4.2.5 Draft hoods	63
4.2.6 Blocked vent shutoff system	66

4.2.7	Condensate disposal system(s)	68
4.2.8	Venting systems for Category II, III, or IV appliances	68
4.2.9	Operational tests of electrical components and parts	69
4.2.10	Marking material adhesion and legibility	75
4.2.11	Stability test	76
<b>5</b>	<b>Internal combustion requirements</b>	<b>76</b>
5.1	Scope	76
5.2	Construction	76
5.3	Performance	77
<b>6</b>	<b>Thermoelectric generator requirements</b>	<b>77</b>
6.1	General	77
6.2	Construction	77
6.2.1	Main burners	77
6.2.2	Primary air adjustment means	78
6.2.3	Orifices and orifice fittings	78
6.2.4	Automatic gas ignition systems and safety shutoff devices	79
6.2.5	Manual ignition of main burner(s)	80
6.2.6	Manual gas valves	81
6.2.7	Automatic controls	82
6.3	Performance	82
6.3.1	General	82
6.3.2	Test gases	82
6.3.3	Test pressures and burner adjustments	83
6.3.4	Combustion	84
6.3.5	Burner operating characteristics	85
6.3.6	Pilot operating characteristics	86
6.3.7	Automatic gas ignition systems and safety shutoff devices	86
6.3.8	Direct ignition systems	90
6.3.9	Manual ignition systems	90
6.3.10	Manually operated gas valves	91
6.3.11	Gas appliance pressure regulators	91
6.3.12	Automatic valves	91
6.3.13	Manifold and control assembly capacity	91
6.3.14	Wall, floor, and ceiling temperatures	92
6.3.15	Wind test	93
6.3.16	Burner durability	93
6.3.17	Burner impact	94
6.4	Manufacturing and production tests	94
<b>7</b>	<b>Vapour expansion cycle requirements</b>	<b>94</b>
7.1	General	94
7.2	Construction — Piping, components, and pressure vessels	95
7.3	Performance — Fluid suitability and safety	96
<b>8</b>	<b>Fuel cell requirements</b>	<b>98</b>
8.1	General	98
8.2	Construction	99



8.3 Performance 99

**9 Exhaust heat reclaimers 99**

9.1 General 99

9.2 Construction 99

9.3 Performance 100

**10 Stirling engine requirements 100**

10.1 Scope 100

10.2 Construction 100

10.3 Performance 100

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Annex A (normative) — Manufacturing and production tests 101

Annex B (informative) — Recommended wire colour usage 103

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# Preface

This is the first edition of CSA/ANSI 13.1, *Combined heat and power appliances*.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

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This Standard was prepared by the Z21/CSA Joint Technical Subcommittee of Standards for Combined Heat and Power Appliances, under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories, the Technical Committee on Gas Appliances and Related Accessories, and the Fuels and Appliances Strategic Steering Committee, and had been formally approved by the Technical Committees and the Interprovincial/Territorial Gas Advisory Council.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

This Standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

**Interpretations:** The Strategic Steering Committee on Fuels and Appliances has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant CSA committee interpretation has not already been published, CSA Group’s procedures for interpretation shall be followed to determine the intended safety principle.”

**Notes:**

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include “Request for interpretation” in the subject line:*
  - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
  - b) *provide an explanation of circumstances surrounding the actual field condition; and*
  - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

*Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at [standardsactivities.csa.ca](http://standardsactivities.csa.ca).*

- 5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include “Proposal for change” in the subject line:*
  - a) *Standard designation (number);*
  - b) *relevant clause, table, and/or figure number;*

- c) *wording of the proposed change; and*
- d) *rationale for the change.*

# CSA/ANSI 13.1:22

## Combined heat and power appliances

### 1 Scope

#### 1.1 Inclusions

##### 1.1.1

This Standard applies to appliances and self-contained packaged systems

- a) manufactured after the date of publication of this Standard; and
- b) that use gaseous or liquid fuels.

##### 1.1.2

This Standard specifies requirements and test methods for the following devices within the field of cogeneration technologies that produce both electricity and thermal energy, including but not limited to,

- a) combined heat and power (CHP) appliances, which generate electricity and thermal energy in a single integrated system:
  - i) internal combustion CHP;
  - ii) thermoelectric generators (TEG);
  - iii) vapour expansion cycle CHP;
  - iv) fuel cell CHP;
  - v) exhaust heat reclaimers; and
  - vi) stirling engine CHP; and
- b) thermoelectric generators (TEG), which convert heat into electrical energy.

#### 1.2 Ratings

This Standard applies to newly produced combined heat and power appliances with a maximum net electrical power output of 50kW.

These requirements apply to TEGs operating at inlet gas pressures not exceeding 250 psig (1720 kPa). These requirements apply to TEGs operating at gas input rates of 100 000 Btu/h or less.

These requirements apply to fixed fuel piping systems. These requirements apply to indoor and outdoor installations.

For any other ratings, see the applicable appliance standards used in conjunction with this Standard.

#### 1.3 Exclusions

This Standard does not apply to fuel storage systems.

#### 1.4 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.