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| <b>Title</b> | <b>Demonstrate knowledge of the key features of high consumption gas appliances and equipment</b> |                |          |
| <b>Level</b> | <b>4</b>  | <b>Credits</b> | <b>6</b> |

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| <b>Purpose</b> | <p>This unit standard is for people who work in the gasfitting industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of the key features of high consumption gas appliances and equipment.</p> |
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| <b>Classification</b> | Plumbing, Gasfitting and Drainlaying > Gasfitting |
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| <b>Available grade</b> | Achieved |
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### Guidance Information

- 1 **References**  
 Building Act 2004;  
 Gas Act 1992;  
 Gas (Safety and Measurement) Regulations 2010;  
 New Zealand Building Code;  
 The following standard, which is available at <http://www.saiglobal.com.au/shop>:  
 AS 3814:2015 *Industrial and commercial gas-fired appliances*;  
 The following standards, which are available at <http://www.standards.govt.nz>:  
 AS/NZS 5601.1:2013 *Gas installations*,  
 NZS 3604:1999 *Timber Framed Buildings*;  
 and all subsequent amendments and replacements.
- 2 **Range**  
 High consumption gas appliances include but are not limited to – forced draught, induced draught, air blast, nozzle mix, atmospheric pre-aerated, low pressure and high pressure; atmospheric post-aerated.
- 3 Credit for this unit standard does not entitle the candidate to legally perform certain electrical aspects of this work unless registered or supervised by a registered person under the provisions of the Electricity Act 1992.
- 4 **Definition**  
*High consumption gas appliances and equipment* – electronically and/or mechanically controlled gas appliances and equipment generally above 250MJ per hour rated input, and to one-off designs.
- 5 Candidates must hold a current limited certificate or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of the key features of high consumption gas appliances and equipment.

#### Performance criteria

- 1.1 Describe design and assembly considerations for high consumption gas appliances and equipment.
- Range built for purpose, for specific application rather than mass produced.
- 1.2 Explain the purpose of a mixer; automatic safety shut off valves (SSOV); vent valve; single stage valves and two stage valves; low gas pressure detector; high gas pressure detector, pressure control devices.
- 1.3 Explain the operation of the burner unit.
- 1.4 Identify from simple line diagrams gas valve symbols from AS/NZS 5601 Part 1 Appendix P.
- 1.5 Identify type of gas shutoff system from the same diagrams as are used for performance criterion 1.4.
- Range gas shut-off system includes – single block, double block, double block-and-vent.
- 1.6 Identify the compliance standard that applies to industrial appliances and their gas control valve trains.
- 1.7 Describe the desired range of gasses in a flue gas sample that indicate the appliance is burning efficiently.
- Range oxygen (O<sup>2</sup>), carbon dioxide (CO<sup>2</sup>), carbon monoxide (CO), and the ratio of carbon monoxide to carbon dioxide.
- 1.8 Identify the GJ/h rating that a shut-off system is adequate up to, to comply with AS 3814:2015.
- Range single block, double block.

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| <b>Replacement information</b> | This unit standard replaced unit standard 21869. |
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| <b>Planned review date</b> | 31 December 2022 |
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**Status information and last date for assessment for superseded versions**

| Process      | Version | Date             | Last Date for Assessment |
|--------------|---------|------------------|--------------------------|
| Registration | 1       | 23 November 2017 | N/A                      |

**Consent and Moderation Requirements (CMR) reference**

0003

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.