

Gas Information Sheet 67

Schedule 9 applications for fuel cells and fuel cell systems



Overview

You must provide additional appliance-specific information to Energy Safe Victoria when you apply for acceptance of fuel cells and fuel cell systems that are considered a Type B appliance.

Schedule 9 of the Gas Safety (Gas Installation) Regulations 2018:

- lists the additional information that needs to be supplied for Type B gas appliances
- must be considered in its entirety (and relevant information supplied). Your application should state the reason an item is not applicable to your particular appliance.

This information sheet should be read in conjunction with Gas Information Sheet 66:

[home](#) > [industry guidance](#) > [gas and pipelines](#) > [gas information sheets](#) > [GIS 66](#)

<https://www.energysafe.vic.gov.au/industry-guidance/electrical/electrical-technical-information/gis-066-fuel-cells-and-fuel-cell>

It aims to provide guidance on the relevant information Energy Safe may require as part of the schedule 9 gas application for fuel cells.

Schedule 9 gas application for fuel cells

Schedule 9 requirements (Parts)	Definitions and explanations
1. Appliance details	
a) Manufacturer's name	Name of the company or person who manufactured the appliance.
b) Model identification	Identification for this appliance type.
c) Nominal gas consumption	Energy input and output expressed in KW.
d) Gas type	Fuel gas(es) consumed by the appliance. For example: hydrogen, natural gas, LP gas, biogas, process gas, etc.
e) Maximum and minimum gas supply pressures and operating pressure	The range of gas pressures that can be supplied to the appliance without adversely affecting the appliance's safety and operation and the typical operating pressure.
f) Purge times	Combustion chamber purge time is not applicable to fuel cells.
g) Gas pressure at the burner head for nominal gas consumption (kPa)	This is not applicable to fuel cells.
h) Combustion chamber volume (m3)	This is not applicable to fuel cells.
i) Purge volume, being the total volume swept from the entry of the purge medium to the point of emission including the interconnecting ductwork	Purge line volume and sizing (includes purge termination point design).

Schedule 9 requirements (Parts)	Definitions and explanations
j) Serial number	Unique Identification code for this particular appliance.
k) Date of manufacture	Date that this particular appliance was manufactured.
2. Description of the appliance function and any associated industrial process that the appliance is integrated with, together with a drawing indicating the general arrangement	<p>What type of appliance is it? What does the appliance do? If integrated into a system, what are the system components, inputs or outputs? For example, 'fuel cell supplied by vessel and connected to a 100KW load bank'.</p> <p>The general arrangement drawing should provide a visual representation of the appliance and its location.</p>
3. Valve train schematic diagram	
A schematic diagram clearly indicating:	
a) All components (including brand and model) and component acceptance numbers	<p>All components on the schematic are to be identified and must include the:</p> <ul style="list-style-type: none"> size, brand, and full model details including material suitability for the gas intended to be used certifying body and acceptance number where component certification has been obtained.
b) Rated working pressure of all components	Maximum pressure stated by the manufacturer or the certifying body.
c) Proposed settings of all adjustable devices	Settings of regulators, pressure switches and any other adjustable devices are to be provided.
d) Nominal gas consumption	Designed maximum operational gas consumption for the appliance.
e) Supply pressure at appliance	<p>The fuel gas pressure supplied to the valve train and appliance with figures to be displayed on the schematic.</p> <p>This should also include a title block with the appliance identification and installation address.</p>
4. Electrical circuit diagram	<p>Only the overall and relevant electrical drawings relating to the appliance safety should be provided or page marked on larger multi-page drawings.</p> <p>The drawings must be clear and legible.</p> <p>This should also include a title block with the appliance identification and installation address.</p>
A circuit diagram in ladder-logic format clearly indicating:	
a) Safety and control circuits	Include all safety control devices and interlocks circuits, and identify all relevant components
b) Details of all major components (including brand and model)	For relevant components, identify brand, model, and (where applicable) classification and certifying body acceptance numbers.

The currency and accuracy of this Gas Information Sheet is not guaranteed once printed or saved to a storage device.

Check Energy Safe Victoria's website for the current version.

Schedule 9 requirements (Parts)	Definitions and explanations
c) Method of operation of all major components	The drawing should clearly display the appliance's safety and operational logic.
5. Include a process and instrumentation diagram (P&ID) clearly indicating the relationship between the safety and control functions of the appliance or process	<p>A P&ID needs to be included, and an operational description submitted to Energy Safe.</p> <p>This information:</p> <ul style="list-style-type: none"> • gives an overview of both safety and operational instrumentation and its relationship to the various key functioning elements of the appliance • enables us to assess the overall impact of critical interlocks on the appliance's safe operation. <p>The P&ID and operational description provides a 'road map' of how all the interrelated systems will function safely.</p> <p>The P&ID should also include a title block with the appliance identification and installation address.</p>
6. Purge calculation	<p>Hydrogen gas purge design including rates, relief piping and relief location. You should include a hazardous area assessment to confirm:</p> <ul style="list-style-type: none"> • vent and unit clearance • exclusion zones • means to prevent entry of exclusion zones.
7. Safe start gas rate	Not applicable to fuel cells.
8. Explosion relief area and dilution air flow rate (where relevant)	Means for dilution or extraction for compartments with electrical components including air flow rate details.
9. Details of venting or purging	A brief description of the proposed vent or purge system.
10. Details of ventilation	Location of appliance in relation to positioning to environment or structures.
11. Commissioning procedures and operating instructions	<p>The standard operating procedure must be provided.</p> <p>Operating instructions should be clear and concise to enable us to effectively check they comply with the prescribed standard.</p> <p>You should provide clear operating instructions to the owner or operator of the appliance after acceptance is granted.</p>

Further information

Contact Energy Safe's technical information team:

- call 1800 652 563 (option 3)
- email gastechalenquiry@energysafe.vic.gov.au

The currency and accuracy of this Gas Information Sheet is not guaranteed once printed or saved to a storage device.

Check Energy Safe Victoria's website for the current version.

Who we are

At Energy Safe Victoria we work to keep Victoria energy safe.

We regulate the energy industry and sector to ensure generation, supply and usage uphold safety standards, and engage with the community to raise awareness of energy safety risks.

In everything we do, we strive to deliver on our purpose to keep Victoria energy safe. Always.

www.energysafe.vic.gov.au