

Sub-Form for Gas Design Registration – Unapproved Appliances

Note: Any personal information collected is handled in accordance with the British Columbia *Freedom and Protection of Privacy Act*. If you have questions about the collection, use, or disclosure of this information, contact the Records, Information and Privacy Analyst for the Technical Safety BC at 1 866 566 7233.

Instructions:

Please fill out all the applicable data about the appliance in the fields provided. Supply the following mandatory items:

- | | |
|---|---------------------------------------|
| 1. Construction P&ID's of the appliance. | 2. Complete valve train drawing |
| 3. Electrical and Control schematics | 4. Venting design |
| 5. Purge calculations for purge timing. | 6. Service and combustible clearance. |
| 7. Proof of electrical approval. | 8. Hazop where required. |
| 9. Manufacturers rating plate must be attached to the appliance, serial # must be provided. | 10. Bill of materials |

Items required for Design registration when a PLC is used as a BMS

1. Functional logic diagrams complete with timer and counter presets power distribution drawings.
2. A list of all error and alarm messages, their meaning, and suggested operator reactions.
3. A description of the microprocessor-based system and BMS operation, a training manual; and security procedures, privilege levels, and assignments.
4. Supply I/O list using the Excel template available on the Technical Safety BC design registration page. Important Note:

*System documentation shall be supplied to the end user. A copy shall be retained by the system designer for at least 10 years. The end user shall keep the system documentation up-to-date and shall keep it on file until the **equipment** or **appliance** is decommissioned.

Where changes are made on commissioning and are not ready at the design registration stage that information shall be supplied to the safety officer in electronic format before final approval to operate is given.

A. Appliance

Appliance type:		Specify other:		Manufacturer/Vendor:		
Model #:		Serial #:		Fuel:	Manufacture date:	
Altitude rating:		Voltage:		Amps:	Hertz:	Phase:
Supply pressure:		Manifold pressure:		Input rating:		
CRN #:						

B. Burner 1

Manufacturer:	Model #:	Serial #:
Burner type:	Min. Input BTUH:	Max. Input BTUH:
Orifice size:		

C. Burner 2

Manufacturer:	Model #:	Serial #:
Burner type:	Min. Input BTUH:	Max. Input BTUH:
Orifice size:		

D. Multiple Burner

Manufacturer:	Model #:	Serial #:
Burner type:	Min. Input BTUH:	Max. Input BTUH:
Orifice size:	Number of:	

Gas Train Components

Components	Manufacturer	Model	Certified By and Standard Listed To	Pressure Rating	Set Point
Pilot					
Manual valve					
Regulator					
Regulator type					
Automatic Gas Valves 1 SSV					
Automatic Gas Valves 2 SSV					
Test Firing Valve					
Valve Proving system					
Main					
Appliance Manual Valve					
Fuel Filter					
Regulator					
Regulator type					
Pressure Relief Valve					
Automatic Gas Valves 1 SSV					
Automatic Gas Valves 2 SSV					
Automatic Gas Valves 3 SSV					
Automatic Gas Valves 4 SSV					
Vent Valve					
Flow Control Valve					
Test Firing Valve					
High Gas Pressure Switch					
Lo Gas Pressure Switch					
Valve Proving system					
Flash back arrestor					

Controls

Components	Manufacturer	Model	Certified By and Standard Listed To	Pressure Rating	Set Point
Air proving switch					
Low fire start switch					
Operating limit temperature					
High limit temperature					
High velocity air switch					
Low velocity air switch					
Low water cutoff					
Aux. Low water Cutoff manual reset					
Flow switch					
Spill Switch					
EGR control					
Air flow proving device					
Level control					

Fuel Air Ratio Control	Manufacturer	Model	Certified By
Note: Must be compliant to Annex D of the B149.3			

Ignition				
Type of Ignition	Manufacturer	Model	Certified By	
Combustion safety control				
Igniter				
Igniter transformer				
Flame sensing device		Pre Purge Time (SEC.)	Post Purge Time (SEC.)	
		Trial for Ignition Time (SEC.)	Flame failure response time (SEC.)	

PLC Combustion Control	Designed to: <input type="text"/>		
	Manufacturer	Model	Certified By
PLC Control	<input type="text"/>	<input type="text"/>	<input type="text"/>
I/O's	<input type="text"/>	<input type="text"/>	<input type="text"/>
Internal watchdog timer	<input type="text"/>	<input type="text"/>	<input type="text"/>
External watchdog timer	<input type="text"/>	<input type="text"/>	<input type="text"/>
MFT relay	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>	<input type="text"/>

Venting			
Venting category	Vent Temperature Max. F.	Vent Temperature Min. F.	
Vent height in feet	Vent Lateral length in Feet	Vent Height above roof level	
Total equivalent length in feet	Unless specified by the manufacturer the equivalent length of a 90 is 5 feet		
List the vent materials			
Classification Type	Gauge / Schedule	Material	Size / Diameter
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