

## Comparing BMS Standards

BMS (Burner Management System) standards vary from each other in the details of what is acceptable and unacceptable. The table below compares some international BMS standards with respect to their differences.

<b>Code</b>	<b>API 556</b>	<b>B149.3</b>	<b>NFPA 85/86/87</b>	<b>EN 746</b>	<b>ISO 13577</b>
<b>Purging</b>					
Volume Changes	5	4	5	5	5
Time	Minimum 15 minutes	No time limit	Minimum 5 minutes	No time limit (>25% air flow at max duty)	No time limit (>50% air flow at max duty)
Method	Natural, Steam Forced Air	Proven	Proven	Proven (only when FD/ID)	Proven (only when FD/ID)
<b>Valve Train</b>					
Manual Isolation Block Valves	Yes	Yes	Yes	Yes	Yes
Automatic Main Block Valves	Yes	No	Yes	Yes	Yes
Control Valve	Yes	Yes	Yes	Yes	Yes
By pass around Control Valve	Yes	Optional	Yes	Not specifically mentioned	Not specifically mentioned
Vents	No		Yes	No automated vent valve	
Valve Proving System		Yes, depends on the burner size	Yes (optional)	Yes	Yes

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Individual Automatic Block Valves	No	Yes / Double	Yes / Double	Yes / double (one on main, one at burner acceptable)	Yes / double (at each burner acceptable)
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Individual Manual Block Valves	No	Yes	Yes	Yes	Yes
Flame Detection – Main	No	Yes (Scanner)	Yes	Yes (if pilot still lit)	Yes (if pilot still lit)
Flame Detection – Pilot	No	Yes (Scanner or F.R)	Yes	Yes	Yes
<b>Ignition Pilot Systems</b>	No	Yes	Yes	Yes (not mandatory)	Yes (not mandatory)
<b>Safety Limits</b>					
Pressure	Yes		Yes	Yes (gas, air)	
Temperature	No		No	Yes (equipment max operating)	Yes (gas, if charge has impact on combustion safety)
Flow	No		No	Yes (gas, air)	Yes (gas, air)
<b>Logic System / Solver</b>					
Certifications	No	Yes (SIL 3 PLC)	85 – Yes (SIL 3 PLC – single burner only) 86 – Yes (SIL > 2 PLC) 87 – Yes (SIL 3 PLC)	Yes (SIL – optional)	Yes (SIL – optional)

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Assistance of Field Operations			Yes	Yes (operated and maintained by trained personnel)	Yes (operator supervision of lames on start-up of high temperature equipment)
Combustion Proven Air	No	Yes	Yes (FD)	Yes (FD/ID)	Yes (FD/ID)
Hardware Certification		Yes	N/A	Yes (certified equipment or SIL rated)	Yes (certified equipment or SIL rated)
Risk Assessment		N/A	N/A	Yes (IEC 62061)	Yes (1EC 61511)

Profire Energy offers PF2100 and PF3100 BMS Products. To learn more about our products and solutions visit [www.profireenergy.com](http://www.profireenergy.com) .