

SV9541 SmartValve™ System



The TRADELINE® SV9561 SmartValve™ System Controls combine gas flow control and electronic intermittent pilot sequencing functions into a single unit. The Q3450 or Q3480 Pilot hardware supplies the low voltage igniter, flame sensor and pilot burner. These ignition system controls provide all gas ignition safety functions by controlling gas flow, ignition source, and a 120 Vac or 240 Vac combustion air blower. The controls also monitor the appliance airflow proving switch and limit string to assure proper appliance operation, and provide prepurge, postpurge, and timed trial for pilot ignition with 100 percent shutoff and continuous retry. A diagnostic LED indicates system status.

Dimensions, Approximate: 3.2 in. wide x 4.9 in. high x 4.1 in. long
(81 mm wide x 124 mm high x 104 mm long.)

Body Pattern: Straight-through

Maximum Capacity at 1 in. P.D. 150 ft³/hr (4.2 m³/hr)

Maximum Capacity: 200 ft³/hr (5.7 m³/hr)

Minimum Capacity: 20 ft³/hr (0.6 m³/hr)

Pilot Gas Outlet: Yes

Electrical Ratings: 24 Vac

Frequency: 60 Hz; 50 Hz

Control Voltage (Thermostat or other call for heat): 24 Vac, 60 Hz.

Flame Failure Response Time (sec): 1.6 sec @ 3 µA

Flame Sense: Two Rod

Ignition Sequence: Intermittent Pilot

- These controls communicate directly with an electronic fan timer (ST9160 Electronic Fan Timer for single stage applications; ST9162 Electronic Fan Timer for two-stage applications) in typical forced warm air furnace applications.
- They also interface with the 208907 Terminal Board, providing compatibility with power stealing thermostats. Or, they directly interface with the appropriate power supplies and a system thermostat for additional appliance applications.
- When controlled directly by a thermostat, these controls do not provide a postpurge function, because power to the control is removed when the thermostat call for heat ends.
- The SV9541 and SV9641 Systems are suitable for a wide range of fan-assisted combustion gas-fired appliances including furnaces, rooftop furnaces, boilers, unit heaters, infrared heaters, water heaters and commercial cooking appliances.

Ignition Source: Pilot

Ignition System Type: Intermittent Hot Surface Pilot Ignition

Ignition Trial Time (sec): 90 sec

Ignition Trials To Lockout: continuous retry

Pressure Ratings: 1/2 psi (3.5 kPa)

Pressure Tapping: 1/8 in. - NPT

Ambient Temperature Range: -40 F to +175 F (-40 C to +79 C)

Mounting: 0 to 90 degrees in any direction from the upright position of the gas control knob, including vertically.

Approvals:

Canadian Standards Association: CSA-International, Design Certified

	Product Number	Type of Gas	Opening Characteristics (standard, step)	Inlet/Outlet Size (in.)	Pressure Regulator Setting		PrePurge	Includes
					(psi)	(kPa)		
•	SV9541Q2561	Natural	Standard Opening 2-stage	1/2 in. NPT x 1/2 in. NPT	1.7 in. wc low; 3.2 in. wc high	0.42 kPa low; 0.80 kPa high	15 seconds	LP Conversion Kit
* TRADELINE models • SUPER TRADELINE models								

Residential
Combustion Controls

SmartValve™ Control Systems Selection Guide

SmartValve™ Control Systems Selection Guide

		Specifications							Cross-Reference
Ignition/ Application	Universal Service Part	Gas Type	Opening Characteristics	Ambient Temperature Range	Natural to LP Conversion Kit (Included)	3/4 in. x 1/2 in. Reducer Bushings (Included)	Extension Harness (Included)	OEM Brands	Replaces
HSI Water Heaters	SV9570A2518	Natural	Standard Opening	0 to 150 F (-18 to 66 C)	No	None	No	A.O Smith	SV9570A2054, SV9570A2070, SV9570A2096
	SV9570A2526	LP						A.O. Smith	SV9570A2062, SV9570A2088, SV9570A2187
Intermittent HSI Pilot with Combustion Air Control and Limit Monitoring Forced Air Furnace	SV9541Q2561	Natural	2-Stage	-40 to 175 F (-40 to 79 C)	Yes	None	No	ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite	SV9540Q2464, SV9541Q3098
	SV9641M4510		Standard Opening		Yes	Two		ICP, Heil, Tempstar, Arcoaire, Comfortmaker, KeepRite, Mestek, Sant Fin	SV9541M2094, SV9540M2229, SV9540M2260, SV9640M4116, SV9640M4124, SV9540M2278, SV9540M2245, SV9640M3126, SV9640M4132
Direct Ignition, General Application	SV9510M2511	Natural	Standard Opening	-40 to 175 F (-40 to 79 C)	Yes	None	No	Modine	SV9510M2347, SV9510M2362, SV9410M2902, SV9510M2412, SV9510M2354, SV9410M2910, SV9510M2388, SV9510M2420
	SV9520M2536			-40 to 175 F (-40 to 79 C)				—	SV9420M2331, SV9520M2403, SV9420M2323
	SV9510K2539		Slow Opening	-40 to 175 F (-40 to 79 C)				Roberts Gordon	SV9510H2228, SV9510K2133, SV9510K2158, SV9510K2141, SV9510K2166
	SV9520H8513		Fast-Slow Opening	0 to 175 F (-18 to 79C)				Armstrong, Concord, AirEase	SV9520H8042, SV9520H8034, SV9520H8067, SV9520H8026

Residential
Combustion Controls